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The American CINEMATOGRAPHER

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In this number

MOTION PHOTOGRAPHY OF THE VOCAL CORDS

COMMON SENSE AND CAMERA ANGLES

PRICE 25c

FEBRUARY 1932

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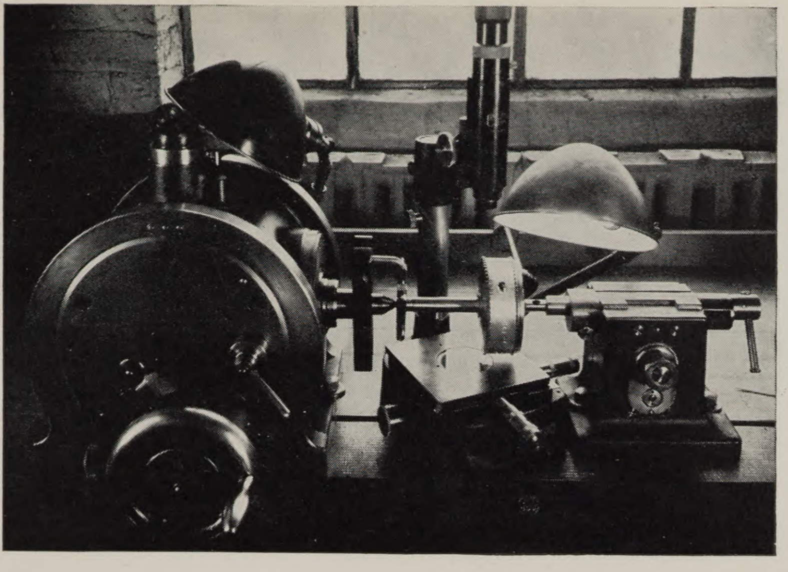

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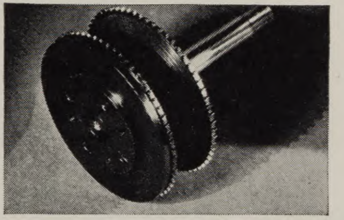

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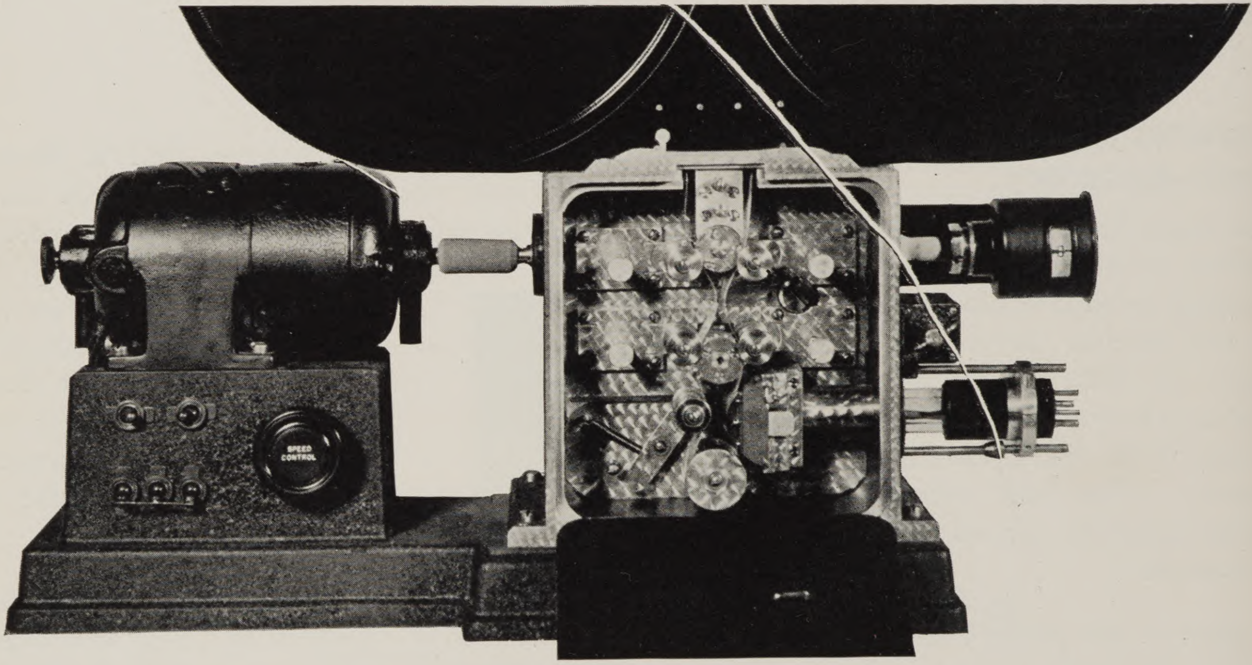

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Volume XII **FEBRUARY, 1932** **Number 10**

CONTENTS

Page

COMMON SENSE AND CAMERA ANGLES, by Rouben Mamoulian 8

THE SHUTTER, by Dr. L. M. Dieterich 10

SOME EXPERIMENTS IN MOTION PHOTOGRAPHY OF THE VOCAL CORDS, by G. O. Russell and C. Tuttle 11

A RADICALLY NEW STUDIO CAMERA, by W. Stull, A.S.C. 12

TOM MIX RIDES AGAIN, by Hal Hall 13

AN APERTURELESS OPTICAL SYSTEM, by R. C. Burt 14

LOYALTY, by John Arnold 15

A NEW TEST CHART FOR DETERMINING COLOR SENSITIVITY OF PHOTOGRAPHIC EMULSIONS, by Herbert Meyer 16

HAL HALL SAYS 18

LABORATORY DEPARTMENT, by Emery Huse 28

WHAT'S WHAT IN MAKEUP 29

THE SET AS AN ACTOR, by Cedric Gibbons 30

AMATEUR MOVIE MAKING, by W. Stull, A.S.C. 32

HUNTING DALLI SHEEP WITH A 16 MM. CAMERA, by V. A. Morgan 34

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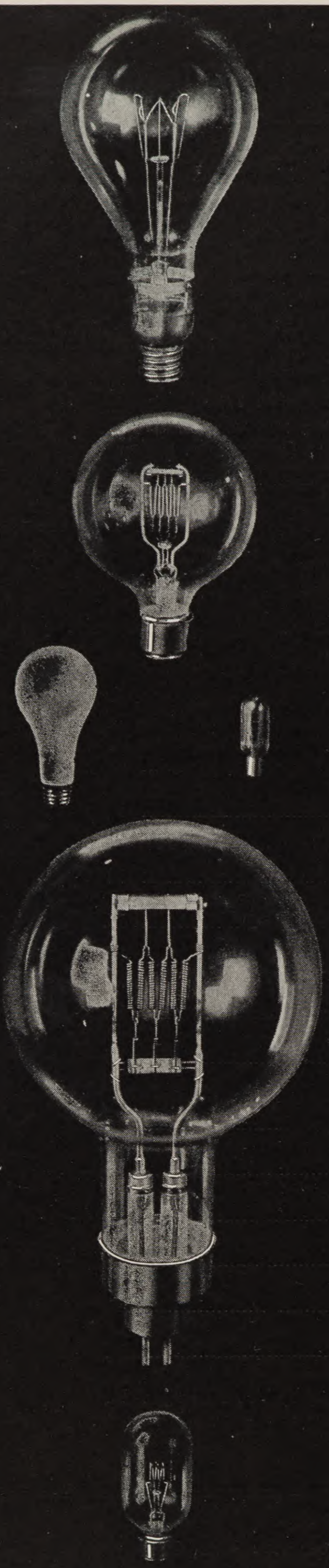

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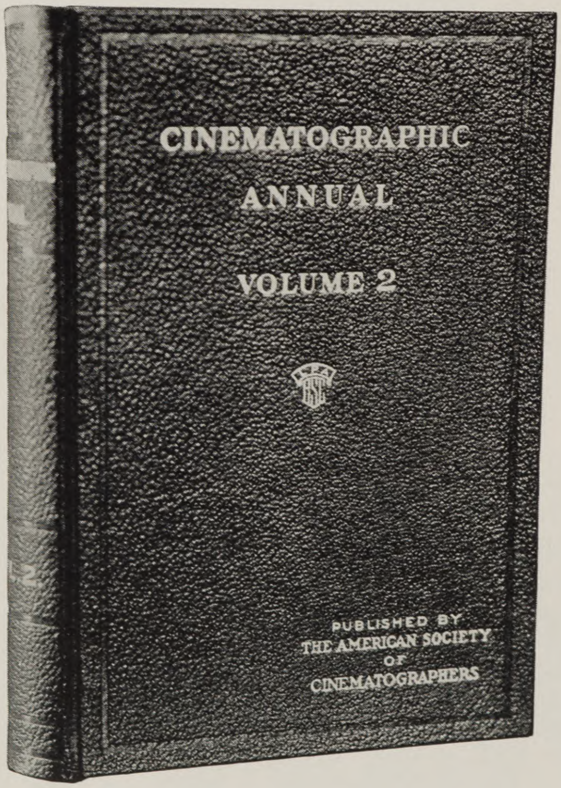

64 Page Pictorial Section

Just A Partial List of Contents

- The Cinematographer's Place in the Motion Picture Industry, Lighting, Cinematic Teleology, Making a Fadeout by After Treatment, Chromatic Correction in Cinematographic Lenses, Transmission Losses in Motion Picture Lenses and Their Significance, Making Matte Shots, Projection Arcs, Aerial Cinematography, The Motion Picture Industry and the School, Improvements in Motion Picture Film, The Relative Masses of Photo-Silver, Cinemicrography with the 16 mm. Camera, What They Use in Hollywood, Straight Line and Toe Records With The Light Valve, Process Photography, On the Theory of Tone Reproduction, with a Graphic Method For the Solution of Problems, A Method For Testing a Photographic Lens, Characteristics of Du Pont Panchromatic Negative Film, The Larger Screen, Motion Pictures in Natural Color, Graininess of Photographic Deposits—A Review, Acoustic Power Levels In Sound Picture Reproduction, A Parallel of Technical Values Between 35 and 16 Millimeter Films. The Use of Carbon Arc Lighting, Optical Printing, Costumes and Sets As Mediums of Expression, Eastman Supersensitive Panchromatic Type Two Motion Picture Film, Making Tests With a Small Camera.

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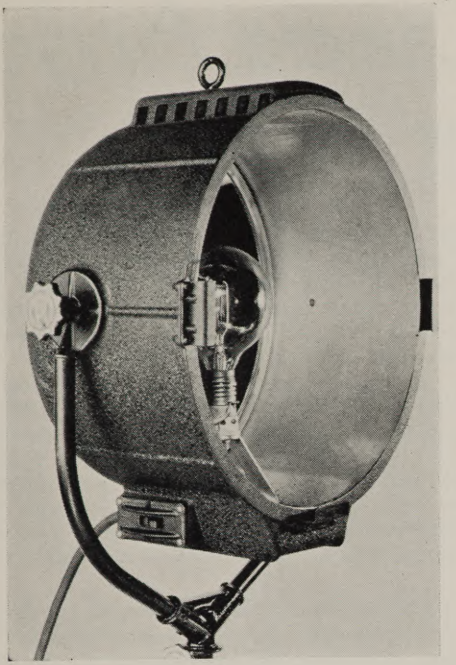

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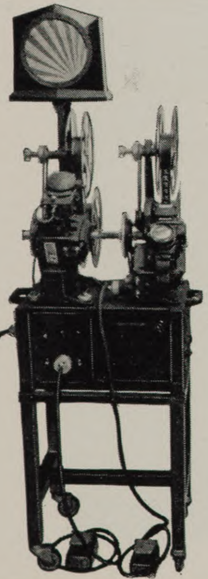

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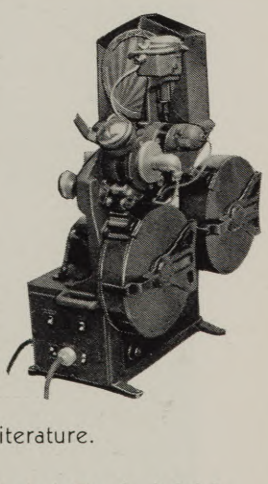

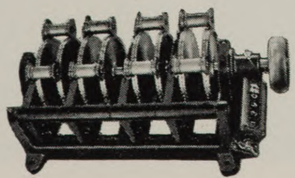

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Common Sense and Camera Angles

by **ROUBEN MAMOULIAN**

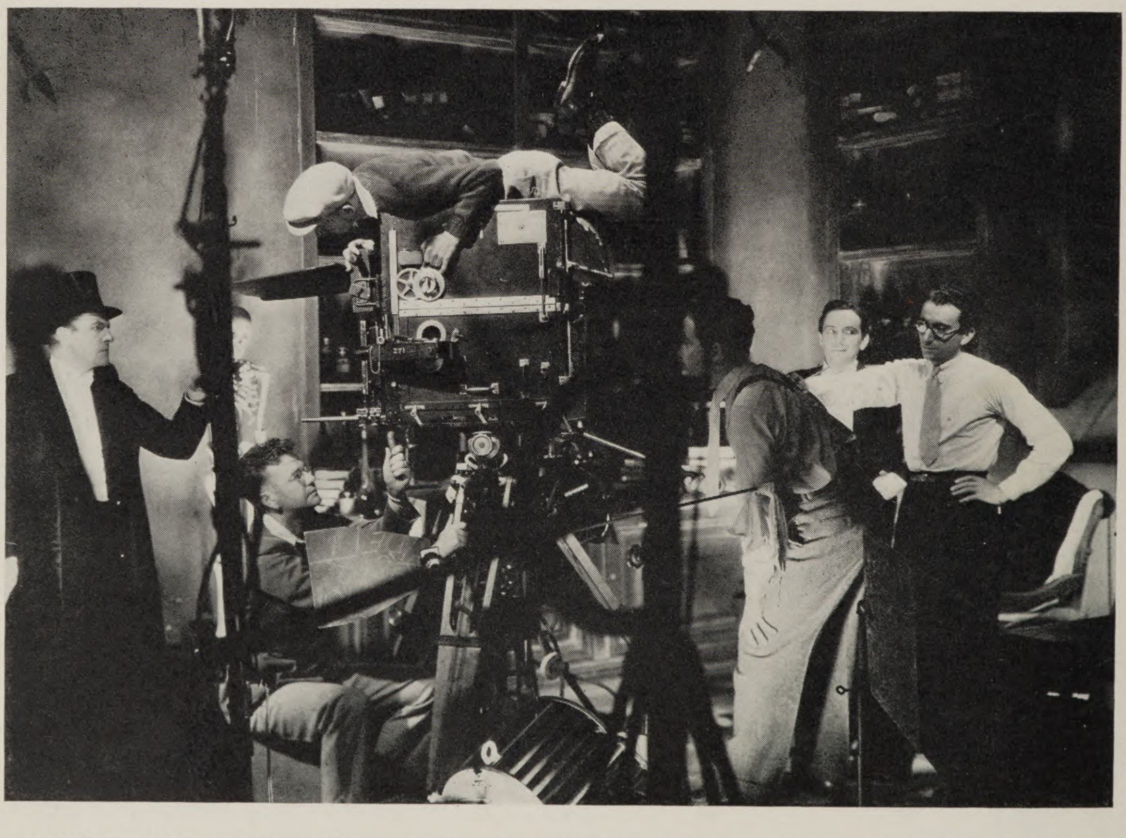
As Told to William Stull, A.S.C.

THE MOST important tool at the motion picture director's command is the camera. Understandingly used, it can be the true star of every production; unwisely used, it can be the "heavy," as well. Which part it is to play depends entirely upon the camera-wisdom of the director and cinematographer, and upon the degree of mutual understanding that obtains between them. Each must know the other's plans and dramatic conceptions, and the two must be able to work in complete harmony, with such unity of thought and purpose that they are almost like one man. I do not mean by this that either should ruthlessly dominate the other, but that each should so completely understand the other's artistic and dramatic ideas and methods that instead of being two individuals working to attain the same ends by different methods, they should coordinate their activities and work together like parts of a perfect machine.

The first step toward this is, of course, agreement, based on mutual understanding, as to what is to be the keynote of the picture, the sequence and the individual scene. Is the basic dramatic conception idealistic or realistic? Is the story to be told through delicate touches or bold, virile contrasts? Is the telling to stress the story itself or the manner of its recital? These, and a thousand other questions arising from them, should be completely settled in the minds of director and cinematographer before the actual shooting commences, so that, from the first rehearsal, the two can work as one, completely coordinating their efforts, and making the picture a complete, coherent unity from start to finish.

For this reason, I advocate giving the cinematographer more ample time for preparation than he is at present given before starting production, in order that he and the director may reach this state of mutual understanding beforehand, rather than after several days of work, during which, since neither completely understands the other's intentions, much time and effort must be wasted upon imperfect results. In order to attain this perfect understanding, each must be able to see beyond the immediate confines of his work: the cinematographer must in fact be a good director as well as a good photographer, and the director must likewise be a good cinematographer. Not that either should by this knowledge feel qualified to supplant the other, but that each should be able to see in its true perspective the relation of his work to the whole.

Of the two, I believe that it is most important for the director to learn cinematography, for most cinematographers are men of many years' experience, and have worked with so many directors that they can hardly help knowing the basic principles of direction, while many directors, coming, like myself, from other fields—such as the legitimate stage—are inclined to overlook the vital bearing that cinematography has upon the dramatic values of a motion picture, and to feel that a knowledge of stagecraft is sufficient. But stagecraft alone is insufficient: to direct a motion picture without a knowledge of the dramatic uses of the camera is like attempting to write in a foreign language when knowing only the grammar, but not the colloquial idiom. The actual results of attempting to make

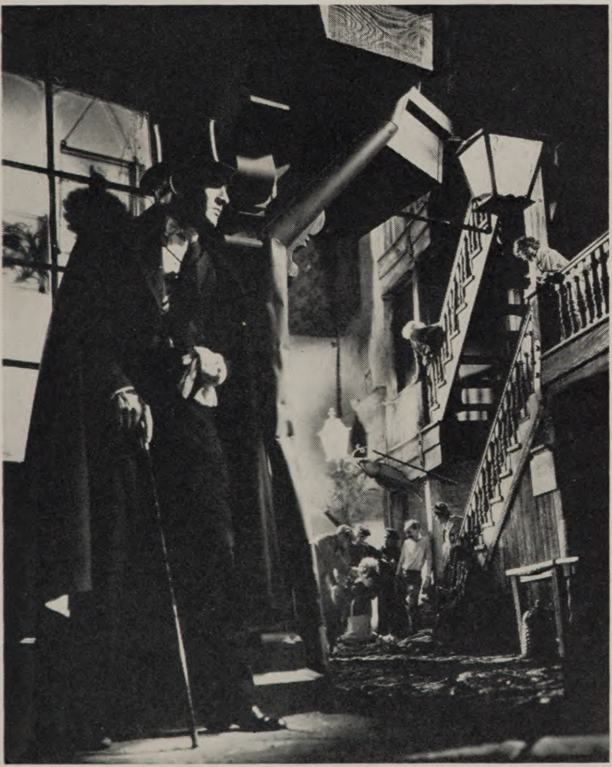


Karl Struss, A.S.C., and George Clemens making a free-head "pan" while Mr. Mamoulian, in shirt sleeves, looks on.

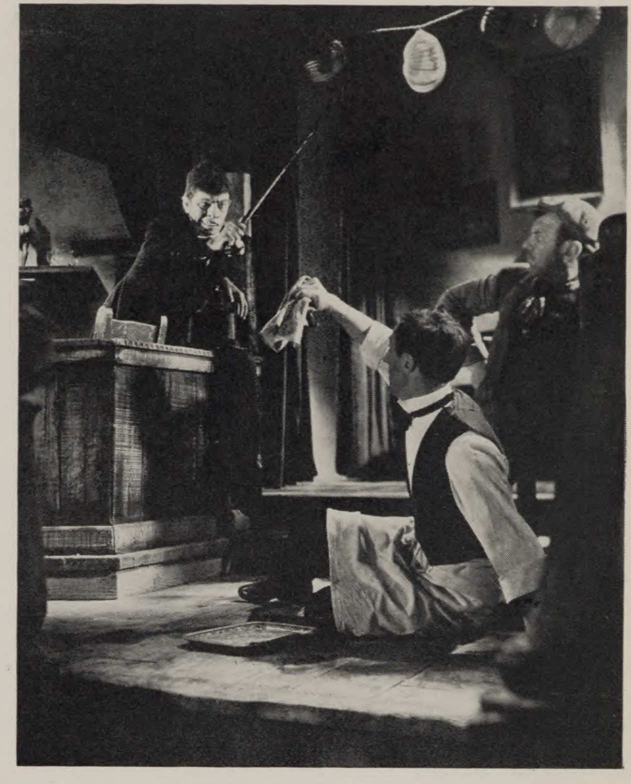
a motion picture without this knowledge will be one of two extremes: either conservative and "stagey," or an unrestrained orgy of unjustified angle-shots and camera-movements. Either is bad, but I regard the latter as worse, for in the first case, if story and dramatics are sound, they will probably gloss over the technical omissions; while in the latter case, the cinematics being definitely bad, such is the power of the camera that this technical fault will overshadow the good points of story and staging. Therefore, the director must know how to use his camera: when to use unusual angles—and why; when to move his camera—and why.

Originally, the camera was merely a machine that recorded the action played before it, much as the eye of a spectator in a theatre observes the action on the stage, without changing its position or making any attempt toward selectiveness. All the action was played in long-shots. It was D. W. Griffith, I believe, who first conceived the idea of visually guiding the audience's attention by means of the close-up, and, later, of making the audience participate in the physical movement of the scenes through the follow-shot. Years later, various German directors rediscovered this, and added to it the powerful auxiliary of angle-shots. Most recently, the Russian directors have added "montage," which is really nothing more nor less than the dramatic use of cutting, dressed up with a French name. Director and cinematographer must both be masters of all of these, knowing how and when to use each—and above all, the psychological reasons for each.

Important as it is to know when to use these technical tricks, it is even more important to know when not to use them, for the best scene ever conceived can be ruined by the intrusion of factors that have no real bearing upon its meaning. In some scenes the camera is all-important, in some, the acting, in some, the dialogue, and in some even, the set. In my work previous to entering pictures, as a director of stage-plays, I found this truth applied in a more or less elementary way. Therefore, I made it a practice to study each scene through preparation and rehearsals until I thought that I knew its real dramatic value. Then I would seat myself in the auditorium and study the scene as the actors played it: study it with my eyes closed, to assure myself that the players were getting the maximum value from their lines; and again with my ears closed, to make certain that action, pantomime, and grouping were perfect. If all of these were satisfactory, the scene itself must be; if at any moment I could not get a clear understanding of the scene through either eyes or ears unaided, something must be wrong with the direction. I would stop the action, and study until I had found and remedied the fault.



This camera angle makes foreground figure dominate the scene without sacrificing the background action.



Low camera setup here emphasizes bestiality of "Hyde."

I find that I can apply the same method, on a larger scale, to motion picture direction. After the players are well rehearsed, I study the action through the camera's viewfinder, or through the recorder's earphones, according to the requirements of the scene. Most frequently, I study it through the camera, for the visual must predominate in a motion picture. It is not only the action that is important, but the way in which the camera sees that action. The cinematographer must light the action to exactly match the mood in which it is played, and must have his camera at exactly the right position matching the dramatic perspective of the scene.

This is the salient point about camera-angles: they must be used to match the dramatic angle of the scene, never for their own sake. A simple close-up may be an attractive piece of photography, and vastly flattering to the star—but if it is cut into a sequence in which it has no dramatic place, it is essentially bad; bad direction, bad photography, and bad cinematics. Similarly, if a close-up is needed, and not used, it is equally bad. Either the director or the cinematographer—if not both of them—should know enough about his business to see that such a shot was necessary, and to see to it that one was made and used.

The same rules apply to the more intricate angle shots. If they aid the dramatic progress of the picture, they are good, and must be used; if they hinder it, they must not be used. For instance: Let us suppose that we have a scene of a group to photograph it from the angle that gives a visual perspective of people sitting at a table, discussing something. The natural

(Continued on page 26)

The Shutter

by **DR. L. M. DIETERICH**

Consulting Engineer

THE SHUTTER performs in both camera and projecting machines, a necessary function in order to produce on the screen a "motion picture" based upon the "persistance of vision" of the human eye.

Persistance of Vision

This is nothing else but the fact that any light impression upon the retina of the human eye continues to excite the ocular nerve center or centers for a short period of time after its cessation.

If, therefore, momentary light impressions follow each other within such time increment of nerve lag—the eye "sees" light continuously.

Such time increment depends upon the intensity of the impressed light.

In viewing an average sunlit landscape this nerve lag continues in its effective gradual decline for a normal unfatigued eye and a "momentary" impression for about 1/12 of a second.

The light sensitivity of a silver emulsion as used in motion picture photography is, however, even for at present commercially practical emulsion, very much lower than that of the human ocular system.

The "exposure" time for a motion picture film is therefore of necessity proportionally longer than a flick of the eye lid.

When motion picture cameras came first into existence, using the then comparatively slow films and also using the then again comparatively low screen illumination, the exposure and projection time increment developed by practical experience, to the value of 1/12 of a second, equivalent to the above mentioned nerve lag.

The shutter then consisted of a revolving plate permitting light passage through the lens to the film for 1/12 of a second and shutting off such light during a succeeding 1/12 of a second.

Synchronous with such alternating light control the film movement, controlled by the intermittent mechanism stood still during shutter openings and progressed from frame to frame while the shutter was closed.

In its practical operation it impresses upon the film a number of "stills" in rapid succession, which, when projected upon the screen in similar rapid succession, are "seen" by the human eye as a continuous picture.

If we consider the optimum definition of sharpness of a picture, obtainable by standard lens and emulsion performance desirable for final pictorial screen effects, then the above described shutter control would be entirely satisfactory, as long, however, only, as we photograph a "still."

A motion picture, however, depicts upon the screen almost universally "motion," i. e. we photograph moving objects.

As we are even today with fastest lenses and emulsions compelled to use an exposure time many times longer than the flick of the eyelid, the photographed object moves while a single exposure is made, and the picture record loses some of the characteristics of a perfect "still." The blending of succeeding pictures would then theoretically produce a picture of unsatisfactory definition. This, however, is in fact not the case. The slight blurring of the significant contrast lines of the object, if it does not move extremely fast across the axis of the camera, on the contrary produces a soft effect which is more pleasing or natural than a wire sharp image. This is proven by the results achieved with an Akeley camera with a normal shutter opening of 230° instead of the otherwise standard 170°.

From this consideration it might be deducted, that the reduction of shutter opening should not be practiced for purely pictorial effects but for exposure values only.

As far as exposure control by shutter manipulation is concerned the "dissolve" action of the shutter, which will be analyzed later on, teaches an interesting lesson.

It is very often of quite surprising visual result, that a picture during a dissolve or fade-out suddenly and more or less only momentary shows a remarkable depth effect, indicating that that specific sequence was overexposed for its best natural rendition before dissolve action took place.

Despite the cutting down of the normal exposure time to practically one half, necessitated by the demands of proper sound reproduction, centerbalanced more or less by faster lenses and emulsions, it seems to be prevalent in the art to overexpose present motion pictures.

Where this practice is not indulged by the expert cinematographer, he in most cases controls exposure by shutter opening reduction.

This practice, however, is not to be recommended because it increases the time limit between the individual pictures beyond that limit, where persistance of vision acts to its full efficiency and the screen effects become less continuous, producing an "unsteady" picture.

It seems to be more advisable and is by certain experts successfully practiced, to rather use filters (say of the neutral density and K series) to secure best exposure results than to promiscuously reduce the shutter opening.

Another objection to pronounced shutter opening reduction lies in the desirability of the proper correlation between pictorial and sound effects.

It must not be forgotten that sound records are produced upon a continuous moving medium, be it disc or film, whereas the synchronization of the picture records makes them coincide with only certain segregated points of the sound record.

When the shutter opening is too much reduced these points of time coincidence or synchronization become farther and farther apart until the harmony between the sound and sight sensations is destroyed.

The average spectator may not observe the details, where for example the tattoo of a drummer which he hears is not paralleled by the motion of the drumstick, but such a scene becomes rather unnatural and somewhat displeasing. It produces an unbalanced total sense reaction, mostly apparent as a flicker-effect.

Another mechanical provision in modern camera concentration enables the cinematographer to gradually shut down the shutter while taking a sequence and producing so-called fade-outs, dissolves and lap-dissolves.

This is an excellent detail tool for the artistic cameraman and director for the production of both artistic and dramatic effects.

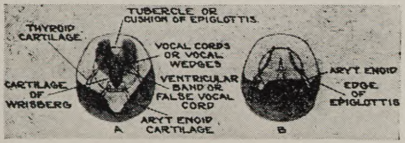
Lately the practice has come into use to use chemical rather than mechanical dissolves. Chemical dissolves have been perfected which are quite satisfactory and are especially useful where single or compound fading effects have been determined upon after a scene has been taken.

(Continued on page 43)

Some Experiments in Motion Photography of the Vocal Cords

by **G. O. RUSSELL*** and **C. TUTTLE****

VISUAL observation of the laryngeal cavity by means of special instruments supported by the evidence of x-ray pictures during phonation has been utilized in studies of the mechanism of speech production. In the present paper we describe a motion picture method of photography of the larynx. When this method is perfected, it promises to be most valuable both in the continuance of the studies and in the presentation of findings to an audience.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B

Fig. 1. Two views of cavity of larynx

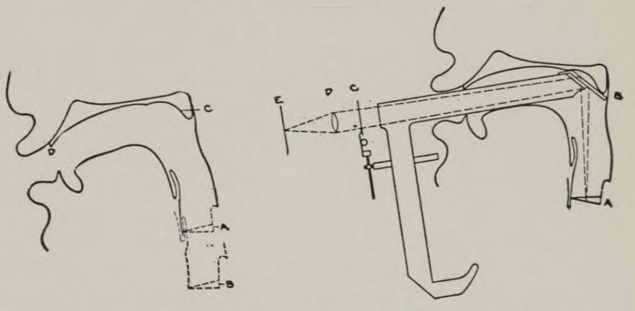
The vocal cords and the surrounding anatomical region which is of particular interest in the study of the speech mechanism occupy a circular area about 5.5 cm. in diameter in the mid-portion of the larynx. A and B of Figure 1 are drawings after laryngoperiscopic still photographs of the cavity of the larynx. The dotted circles inscribe the area to be photographed. A shows the full length of the cords (about 20 mm.). These are a pearly white in color while the surrounding areas vary from a cream pink to deeper shades of red. The false cords, which are a darker red than the true cords, lie approximately parallel to the latter. B shows the same area as it is covered with the epiglottis—a smooth, yellowish pink membranous material slightly concave forward and upward. Physiologically, the epiglottis was formerly thought to be a kind of trapdoor or lid which closed down tightly over the larynx during the act of swallowing. The present experiments show that in this subject the actual laryngeal closure is first created by an approximation between the pulvinar (or cushion) at its base, and the cartilages of Wrisberg in posterior-anterior direction; second, by the ventricular wedges (or false cords) laterally.

The position of the vocal cord assembly varies from a distance of about 60 mm. to perhaps 100 mm. down the throat during the act of speaking or singing. The two extreme positions are indicated in Figure 2, in which the vocal cavity is outlined from an x-ray photograph. A is the highest position of the cords and B the lowest. The distance of a point, C, at the back of the throat, from D at the front of the mouth is about 90 mm.

An optical system to image this inaccessible region upon the film in the motion picture camera presents some rather formidable difficulties. Nature has provided a nicely balanced set of reflexes to prevent the accidental introduction of hard material into the throat passages. The average subject will automatically protest an optical system thrust into the throat just as energetically as he will an inadvertently swallowed bone.

Experimental Technic

In these preliminary experiments, we have used the Russell "Fonofaryngoskop" made by the Electro-Surgical Instrument Co. of Rochester, New York. This device consists essentially of a tube 135 mm. long and about 13 mm. inside diameter. At either end are mirrors which may be tilted with respect to the axis of the tube, thus enabling one to view his own larynx. The use of this device in our experiments is illustrated in Figure 3. Since the view is obtained through this small tube, there is no need of forcing the subject to open his mouth to the uttermost limit in order to pass in the light, forcibly depress the tongue, or pull it out so as to prevent the epiglottis from retracting and shutting off the view of the cords, as was formerly necessary in the usage of the old laryngoscopic mirror and illuminating device. Obviously no normal speech or voice could be produced under such circumstances.



Left, Fig. 2, Cross section showing extreme positions of the vocal cords. Right, Fig. 3, Cross section showing instruments in place for photography.

Optical Limitations Imposed by the Fonofaryngoskop.—Since the inside diameter of the tube is only 13 mm. and since the amount of illumination which can be supplied to the area to be photographed is limited, the use of a lens of short focal length and high relative aperture is required. If the diameter of the exit pupil of the lens is greater than 13 mm. it will be vignetted by the tube. For these reasons we have used a lens of 25 mm. focal length and f/1.9 aperture. With this lens as close as possible to the end of the tube, the object distance becomes 150 mm. and the image distance about 30 mm. The effective aperture is thus reduced to f/2.3. The magnification (0.2x) is somewhat less than could be desired.

Illumination.—It is necessary to supply to the rather inaccessible laryngeal cavity an intensity great enough to photograph red tissue with a lens working at f/2.3 at a taking rate of at least 16 pictures per second. Previous experience[1] had indicated that under these conditions and using panchromatic film, a minimum of about 200 visual foot candles of illumination from tungsten at 2900 degrees K. would be required.

For visual observation, a small battery operated lamp (about ½ watt) is provided with the Fonofaryngoskop. This lamp will furnish about 12 foot candles on the plane to be photographed—an intensity which is entirely inadequate for the photography. A quartz rod in contact with an external source appeared to be the best method of conducting sufficient light to the vocal cords.

(Continued on page 45)

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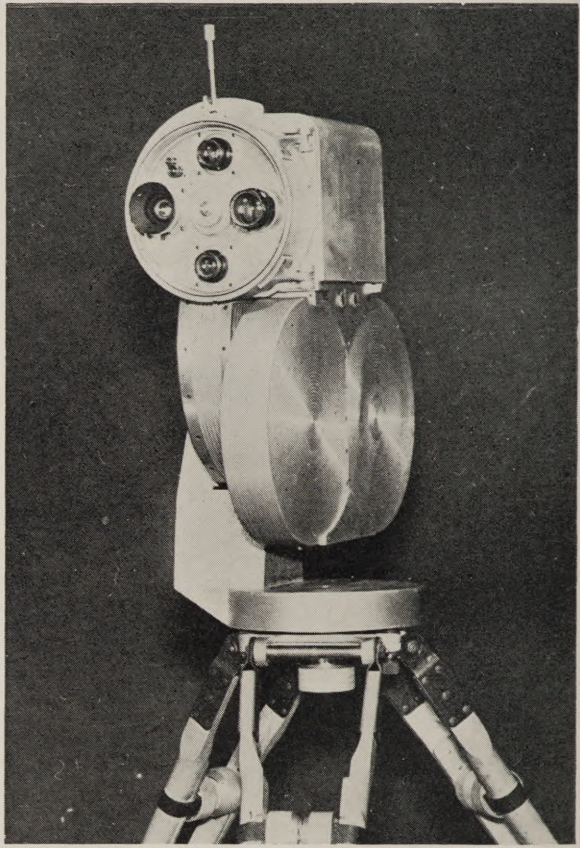
*Phonetics Laboratories, Ohio State University, Columbus, Ohio.
**Eastman Kodak Research Laboratories.

A Radically New Studio Camera

Simplicity and Silence Feature New Tally Camera

by **WILLIAM STULL, A.S.C.**



AN ENTIRELY new conception in studio cinema cameras has just been announced by two pioneers in the motion picture business, T. L. Tally, whose career as a showman extends back to the old Kinetoscope days, and Theo. M. de la Garde, whose experience as a motion picture engineer is almost as long. The camera itself, while embodying all of the mechanical essentials proven necessary through the years, is the most uniquely modern—-almost futuristic—design that has yet appeared. In appearance, it is unlike anything now in use either in this country or abroad, while in operation it bids fair to realize the cinematographer's ideal of simplicity, accuracy and fool-proofness.

One is first impressed by the new camera's unique outward appearance. In it, the 1000 foot film magazines are placed beneath the camera proper, well below the center of gravity. The movement, lens-turret, etc., are grouped in a small and compact unit above the magazines, and the friction pan-and-tilt movement is built integrally with the camera-head itself, in a manner slightly reminiscent of the original Akeley. Due to its unusual design and low center of gravity, the new camera is perfectly balanced, and can be tilted or panned effortlessly and silently, the tilt action allows a vertical radius of more than 180 degrees, or from straight down to slightly more than straight up. The camera is so balanced that it will remain in any position. Friction locks are of course provided for both vertical and horizontal movements, as are means for adjusting the friction tension.

The camera case is sound-proofed throughout, and the camera and tripod insulated from each other by rubber, so that, since the movement is exceptionally silent, no blimps should be needed. The movement is of the cam-and-shuttle type, and is fitted with pilot pins. The shuttle is so designed that the fingers move straight into and out of the perforations

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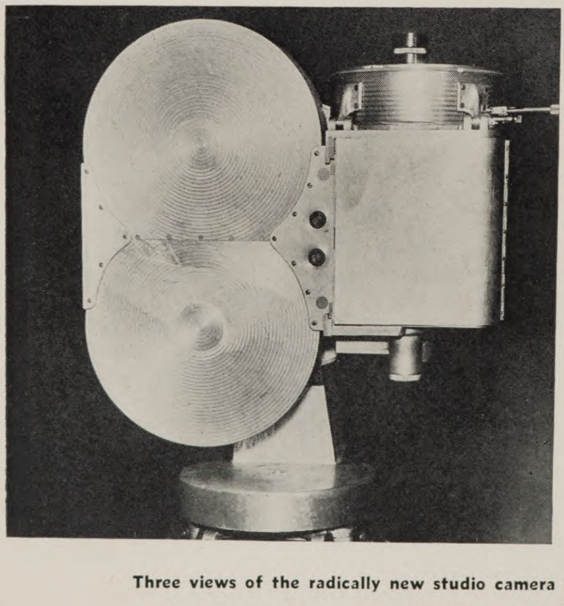
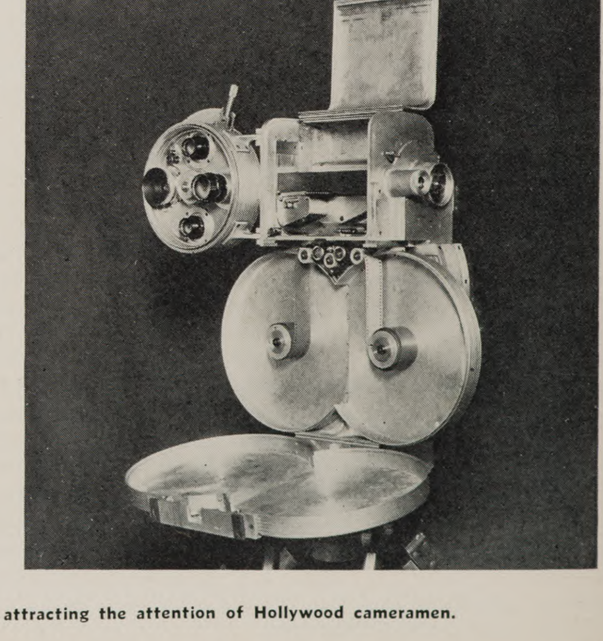




Three views of the radically new studio camera which is attracting the attention of Hollywood cameramen.

Mr. Clark at camera on location

Tom Mix Rides Again

With Dan Clark as His Chief Cinematographer

by **HAL HALL**

PERHAPS the most joyful bit of news that can come to the ears of countless boys (both the young ones and the old ones) is the fact that Tom Mix has come back to the screen. And with his return, one of the most outstanding production combinations of Hollywood is resumed. This is the combination of Tom Mix as the star and Dan Clark as his chief cameraman.

Away back in the days of the silent pictures—days when Mix was the idol of millions and was one of the biggest money-makers on the Fox lot, Dan and Tom met. Various cameramen had photographed Mix's pictures up to then. But when Dan finished his first picture for Mix he became as much a factor in the Mix troupe as the star himself, for Dan liked Tom and Tom liked Dan—and Tom thought none could photograph his pictures as well as Dan. For eight consecutive years Clark photographed Mix's pictures; doing a total of 64 feature pictures, or an average of eight a year.

Then Mix and Fox parted company. Mix quit pictures to go with a circus, and the boys of the world lost their greatest Western star and idol. It may have been because, with the advent of sound, picture producers thought the end of Westerns had come. Suddenly it was discovered that Westerns were more popular in sound than on the silent screen, and ever since "In Old Arizona" was filmed the various producing organizations have had their eyes on Tom Mix, wondering if he would ever come back—and who would get him. Universal was the lucky company to land Mix when he decided to come back—and one of the first requests that Mix made was for Dan Clark to come along with him and pick up the photographic Mix reins where he had left off when Mix quit pictures. About ready to start production on the first picture, Mix was stricken with appendicitis, and for a time it seemed as though he would not recover. But he is well again and now he is again riding his famous horse, and the old Clark-Mix combination is again functioning—and Dan and Tom are both wearing big smiles as scene after scene in "Destry Rides Again" are being packed in the Clark camera.

"It is wonderful to be with Mix again," says Clark. "He is one of the finest men to work with that I ever met. And, to me, an added pleasure in working on Mix pictures is the fact that it takes you out into the wild places where you have

(Continued on page 47)

A location scene on a Mix picture in the silent days. Mr. Mix and Mr. Clark are in center, facing each other

An Apertureless Optical System

by **R. C. BURT**

THE ORDINARY optical system for the reproduction of sound from records on film requires some form of limiting mechanical aperture of special shape. It is shown in this paper that not only is the use of such a mechanical aperture not necessary, but the apertureless system herein described has desirable features not obtainable with any other system. In this optical system the image of a finite source of light is optically flattened and elongated until it is in the proper proportion for the light beam on the film. This image is then focused on the film by an achromatic lens.

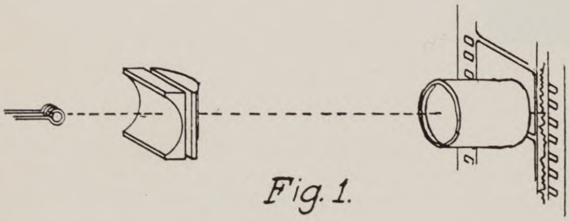


Fig. 1.

As shown in Fig. 1, this result is obtained by using special lenses. In an elementary system two of these lenses have cylindrical surfaces. One surface is negative, its axis being horizontal; the other surface is positive, its axis being vertical. The negative surface reduces the thickness of the filament image, and the positive surface draws out its length.

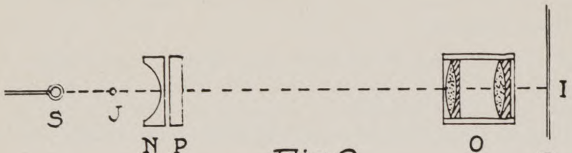


Fig. 2.

Fig. 2 is a vertical section in which

S is the source
J is the virtual image of the source
N is the negative surface
P is the positive surface
O is the objective
F is the film
I is the image on the film

It is evident that by properly selecting the power of the negative lens, the virtual image J can be made any desired size so that with a given objective lens it will be reduced to the desired width at I.

Fig. 3 shows the plan section. Each element of the filament is drawn out by the positive lens P until, when observed from the objective, it appears as a long bar of light extending completely across the lens P. Light from each element is then brought to focus at a point on the objective. This appears as an image of the filament along one axis only, being a striated vertical band of light which completely fills the objective. It is obvious that instead of one lens of given power, several lenses of lower power can be substituted.

Selection of Lenses

In applying this optical system almost any available source of light may be used, and by properly selecting N and P any desired size of beam may be formed. The length and width of the light beam required on the film, and the light source which it is desired to use are usually fixed. Given the length of the light beam, the fastest short focus objective commercially available is selected. Usually a microscope objective is satisfactory, as these are inexpensive, highly corrected, and have speeds up to f/1.0 or greater. Selection of such a lens automatically places limits on the location of the image J, as these lenses are corrected for a certain working distance and this in turn determines the size of J.

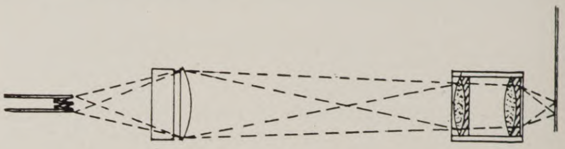


Fig. 3.

Selection of the power and location of the lens element P comes next because, knowing the length of the selected source, P is chosen so as to fill the objective O completely with light of intrinsic brilliancy, thus obtaining the highest efficiency.

The length of the negative lens N is now determined to give the required length of image I and it is only necessary to compute N for the proper reduction of diameter of S to meet the specified value needed for J.

The mathematical solution of the above conditions is very elementary, requiring only the simple lens equation. Solution by maxima and minima for the shortest possible optical system with a given set of lens O and N is difficult, a graphical solution being much easier.

The advantages of this system in comparison with others are easily understood and may be enumerated as follows

A glance at Fig. 3 shows one that the objective O is completely filled at all points by light of intrinsic brilliancy from all points on the image J. Hence the system is 100 per cent efficient, giving the maximum brilliance possible in the image I for any system using a source of light S and passing it through any lens. The only way a more brilliant image can be obtained is by using a faster lens at O or by increasing the temperature of the source S.

It is not sensitive to position of the filament. Referring to Fig. 2, S may move up or down, forward or backward, with only a small change in the position of J, due to the effect of the lens N. As a result of this feature a standard source such as an automobile headlight bulb is perfectly satisfactory. Once designed, all standard headlight bulbs are perfectly interchangeable without any refocusing whatever.

The effect of azimuth errors in the filament do not appear as an inclined light image, but only as a very slightly broadened image. When using an automobile headlight bulb, the filament coil may be rotated 30 degrees from the horizontal and the light image width is increased only 60 per cent.

The image is very sharp, clean, and true, being formed by an optical surface instead of a mechanical slit as is the usual custom.

(Continued on page 46)

Loyalty

by **JOHN ARNOLD**

President, American Society of Cinematographers

CRITICISM of the motion picture industry and its people has always been prevalent. Some of this criticism has been baseless—the mere puerile diatribes of disgruntled incompetents or the insincere rantings of unscrupulous publicity-seekers; but some of it now and again has been true. Of this latter, the most constant as well as the most serious charge has been that motion picture people, individually and collectively, are the most unswervingly disloyal group in the world. Without doubt, this is the gravest charge that could be brought against any industrial group—and it is doubly heinous when raised toward a group such as ours, whose very life is in appealing to the emotions and sentiments of the world. Yet, lamentably, it is a charge that every one of us must admit is justified. Loyalty is conspicuously lacking in every phase of the industry, whether it be loyalty to friends, loyalty to the industrial group, loyalty to the employer or the employee, or loyalty to the industry as a whole. In its place is self-seeking individualism, back-biting, scandal-mongering, and every imaginable sort of petty politics. With a few notable exceptions, everyone is willing to do anything for money or preferment—to lick the feet of the successful person (though ridiculing him behind his back), and to openly spurn him when his luck leaves him for a moment.

Why is this so? Our industry is one of the greatest in the world, and includes among its personnel thousands of the finest, best and most capable men and women to be found anywhere. Can it be that we are ashamed of showing that spirit of loyalty that must be inherent in such people? Is it possible that we are of such base stuff that we have none of the finer instincts of mankind in us? Or is our work so basically different from that of all our fellows that it stifles all the inherent decency in us?

It has been said that the making of motion pictures is unique—a merciless battle in which every man must fight for his own interest with tooth and claw, and in which so effete a sentiment as loyalty is a weakness. Perhaps it is—but every other industry or profession in this strenuous civilization of ours is jut as much of a battle. Yet among them there is none the less a great measure of loyalty to friends, to co-workers, to employers, and to the profession as a whole. Can such a feeling exist in other pursuits, and yet be missing from ours?

It has been said that there is too much incompetence in high places—too much fraud and not enough honesty—to foster such a spirit of loyalty among picture people. Yet the same applies to every other industry in almost equal measure—without damaging the loyal spirit of the profession as a whole. Individual bankers may abscond—yet no member of the banking profession feels that the integrity of either his associates or himself is lessened thereby. Individual industrial executives in any line may prove incompetent—yet their fellow-workers do not feel that incompetence is rife in their industry because of it. Individual newspapermen may be debauched—yet no one—editor, reporter, or printer—will admit that because of it the entire industry must be ridden with vice. Individual lawyers, doctors, and even clergymen have proven dishonest—yet no professions have a greater degree of professional loyalty, or higher standards of honor. Can we admit that our industry is peopled exclusively by black-sheep?

In every other walk of life, people are proud of their craft. We who make motion pictures have even more reason than they to be proud of our vocation, of our industry, for our products reach the world, give pleasure to uncounted millions, and influence the thoughts and lives of nations. Can we do this without a glow of pride in our work, without a conscious pride in being a part of so great an industry? A railroad man, asked what his vocation is, will proudly reply, "I'm an engineer, or conductor, or despatcher, (or whatever he may be) on the B. & O." A newspaper man will similarly reply, "I'm on the World." Why is it then, that a motion picture man—with even more cause for pride than either of these, will shamefacedly reply, "I'm on a camera at the........................Studio," as if apologizing for the fact?

Why not face the facts? Our industry is one of the two or three greatest in the world. Its influence on the lives and thoughts of the world is greater than pulpit and press combined. It numbers within its ranks thousands of the finest, most brilliant, and most capable men and women on earth. In magnitude, influence, and in its very nature, it is as inspiring a heritage as the world offers. Its personnel is at least on a par with that of any other group in existence. Lastly, it provides every one of us not only with a good living, but with one that is far better than we might hope for in any other line of work. From first to last, it is something to be proud of. It can, if we will let it, give us everything that we can desire: a worthy work, congenial fellow-workers, and abundant remuneration. For this we should be willing to give in return not only our best efforts—most of us do that much already—but our faith and loyalty. In common with every other industry throughout the world, ours is passing through a critical period. How soon and how completely it recovers depends upon us—individually and collectively. If we loyally and enthusiastically cooperate, working whole-heartedly for that recovery, nothing can stop it. If we remain as we are, every man for himself, doing his routine work, but nothing more, the hard times will inevitably continue, and the recovery be delayed and incomplete. Each of us, no matter what his position, must learn to think, not alone for himself or for his industrial unit, but for the whole industry. He must learn that his own future is bound up with that of every other member of the industry: he must learn to give his complete and unswerving loyalty, not alone to himself, but to his fellow-workers, be they cameramen, actors, directors, writers or executives, and to the industry as a whole as well. He must learn to give that loyal cooperation not alone to the other members of his individual craft, but to his employers, or his employees, and to every other individual and group in the Industry, as well as to the Industry itself.

Some of us may argue that it is no use to try to cooperate with any other group, saying, "What have the producers, or actors, or directors ever done for me—what have they ever given me but the short end of every deal?" Perhaps this is so; if it is, what have we done that would keep them from saying the same about us? When have we given them reason to think that we had it in us to be loyal to them as fellow-workers, or to the Industry as a whole? Have we, therefore, any right to complain, since their attitude must be a reflection of our own?

Loyalty and cooperation may be mere, intangible ideals, but it is upon such ideals that the greatest institutions of our day are founded. Let us then make the experiment: be loyal to each other, to all of our co-workers in other branches of the Industry, to our employers or our employees as the case may be, and, finally, to the great Industry of which we are all a part. No harm can come of it, and, if the experience of every other great institution in the world is any criterion, a great deal of benefit, individual and collective, must result.

A New Test Chart for Determining Color Sensitivity of Photographic Emulsions

by **DR. HERBERT MEYER**
Technical Division of Agfa Raw Film Corporation, Hollywood, California

THE amazing development in photographic technique during the last few years, which finally led to the present standard of quality, has replaced nearly all the "guessing" methods commonly used in former practice by methods scientifically based and enabling one to arrive at a quantitative measurement of data and factors necessary to maintain a uniform basis for any photographic procedure.

Sensitometry with its terms of gamma, speed, density and transmission is no longer a language strange to the laboratory men and looked upon as useless for practical application. However, this development has not arrived and never will arrive to a final status wherein every request is covered and cleared up, which could be called the ideal fulfillment of standardization. The technical and physical structure of the photographic process is far too complicated in its details and possible variations to allow a simple application of general standard methods.

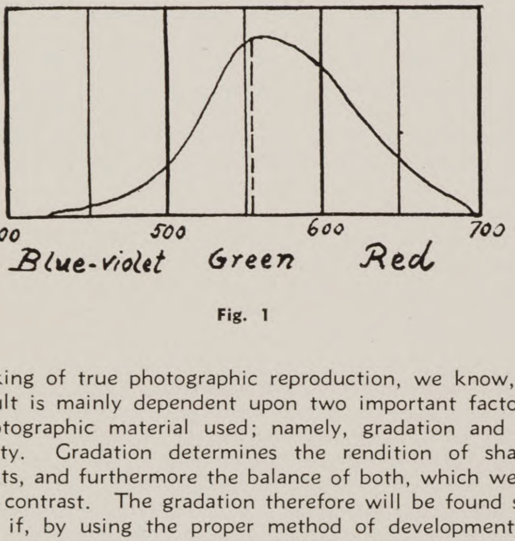


Fig. 1

Speaking of true photographic reproduction, we know, that the result is mainly dependent upon two important factors of the photographic material used; namely, gradation and color sensitivity. Gradation determines the rendition of shadows and lights, and furthermore the balance of both, which we may call the contrast. The gradation therefore will be found satisfactory, if, by using the proper method of development, the densities of shadows and lights and the contrast between all densities correspond directly to the brightness of tone values of all different shadows and lights and their contrast in the natural object to be reproduced. The determination of the gradation is well known and the methods for testing gradation not far from being standardized.

The second factor, color sensitivity, is far more difficult to determine, and at present there does not exist any method which is simple and efficient enough to be generally applied by the practice.

The ideal curve for true color rendition in photographic reproduction would have to fit exactly that of the sensitiveness of the eye to the color spectrum. This means, that in a reproduction of colors by black and white, the densities representing the different color tones must coincide with the brightness of the corresponding color tones in the object as seen by the eye.

Figure 1 represents an approximate curve of the color sensitiveness of the eye showing mainly that the maximum of sensitiveness lies within the green-yellow, while at the blue and red end of the spectrum the sensitiveness declines to a minimum.

Comparing the curves of color sensitiveness of any photographic emulsion, we know that no emulsion exists which closely approximates the above conditions. For this reason, the use of color filters as well as the use of make-ups has been introduced, which allow to make the necessary corrections to the extent that in spite of the difference between the color sensitiveness of the eye and that of, for instance, panchromatic emulsions, the photographic rendition of color values appears satisfactory and natural.

The selection of the proper filters for a given object under certain light conditions is done by the camera men by use of practical test shots, or by following the recommendation of the filter- and film-manufacturer. There is no doubt but that the demand rather often exists for a method allowing for the testing of filters and color sensitiveness of film under various light conditions, which in its result would give simple numerical values, which everybody will understand and correspondingly depend upon.

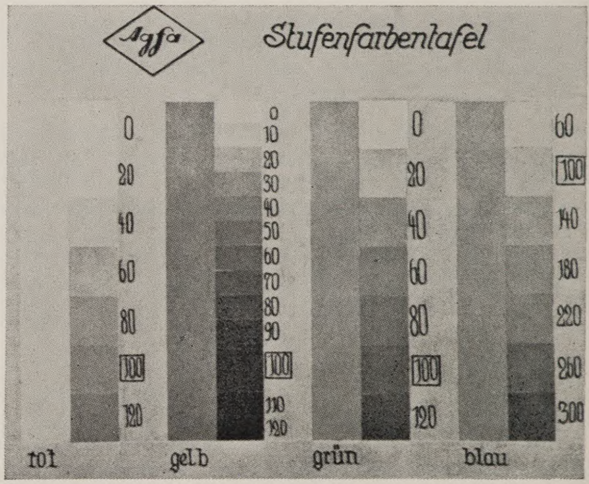


Fig. 2

The research laboratory of the AGFA in Germany has recently worked out a method, which in the above sense may become especially valuable to camera men.

It consists of a color chart (figure 2) with strips of four carefully selected pigment dyes: red, yellow, green and blue. (Figure 3 represents a sketch of figure 2 wherein the German designations are translated). It is not necessary for practical use to test out color rendition for color ranges between these four colors. Besides this, as the size of a 35 mm. picture frame is very small, it is advisable regarding the judging of the results to have the test chart limited to only four colors.

Adjacent to each color strip of this chart, one will notice a gray scale each step of which shows a figure. The distinctly framed figure 100 indicates that the intensity of light reflection or brightness of the corresponding gray field is of the same value as that of the corresponding color strip itself.

The exact matching of the brightness of this gray strip to that of the corresponding color has been accomplished in two different ways, which gave identical results proving that the selection is absolutely dependable. It is necessary to know that the matching was done for artificial day light, using a Mazda lamp of a color temperature of 2360° Kalvin and a Davis and Gibson liquid filter. Therefore, the figure 100 indicates that the brightness of the gray step corresponds with that of the color itself for day light.

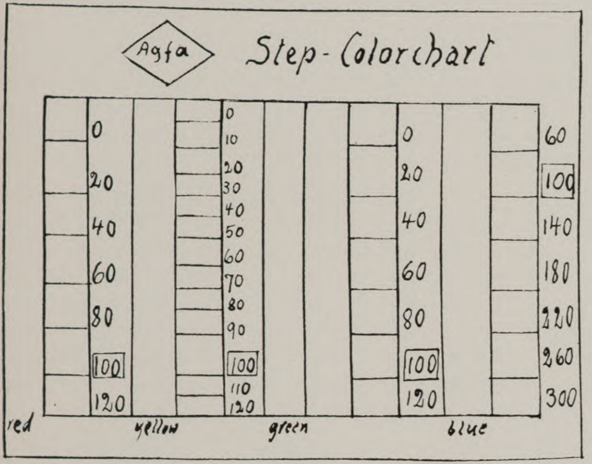


Fig. 3

The remainder of the figures, for instance 80, indicates that the brightness of its corresponding gray field is only 80% of that of the color, or if we take figure 120, that the brightness of its corresponding gray step is 20% higher than that of the color. Using this color chart for testing of color rendition of a certain film emulsion or of filters under varying light conditions regarding their influence on color rendition for a given film, the chart is photographed at normal exposure. In the developed negative, one simply compares the density of the deposits representing each color strip with that of the adjacent gray scale, thus finding which gray step approximates closest the color strip in density.

By reading the figure placed along this gray step, we have a quantitative result as to the degree the color rendition differs from the figure 100, that means from ideal color reproduction.

Figures 4 to 11 may demonstrate the practical use of this method.

Figures 4 to 6: Agfa color test chart, photographed on Agfa Cine Neg. Panchr.

Figure 4 using day light.

Figure 5 using white flame carbon.

Figure 6 using Mazda light.

Figures 7 to 9: Agfa color chart, photographed on Agfa Cine Negative Superpan.

Figure 7 using daylight.

Figure 8 using white flame carbon.

Figure 9 using Mazda light.

Figures 10 to 11: Agfa color chart, photographed on Agfa Cine Neg. Panchr. using filters.

Figure 10 using day light with Agfa yellow filter No. 1.

Figure 11 using day light with green-yellow filter.

The results read from the above tests allowing the quantitative measurement of color rendition of the two films under varying light- and filter-conditions are resumed in the following list:

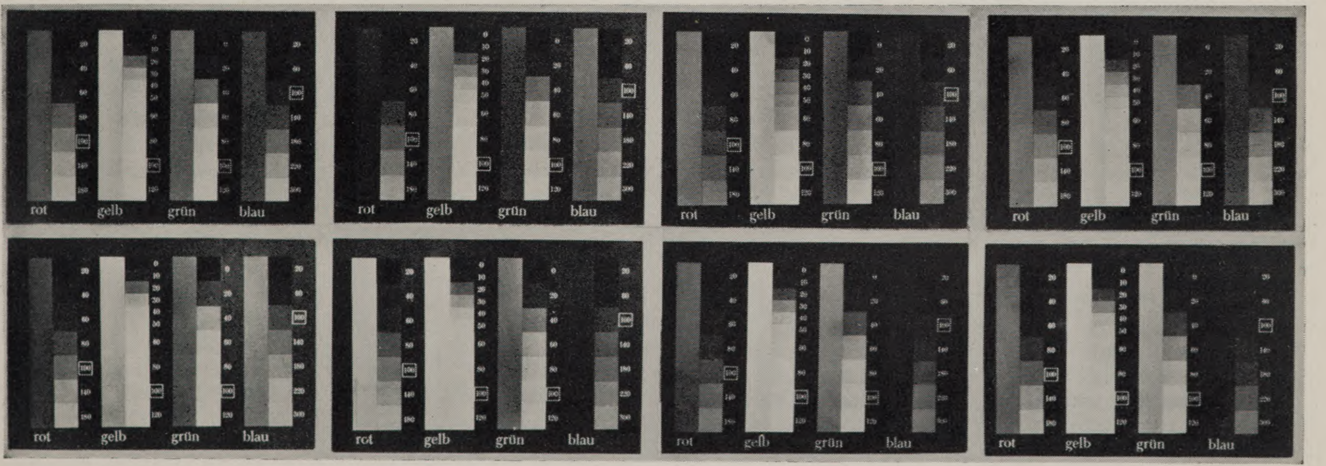
Without Filter:	**red**	**yellow**	**green**	**blue**
Cine Neg. Panchr.				
Day Light (fig. 4)	80	40	40	140
White Flame Carbon (fig. 5)	60	25	30	180
Mazda Light (fig. 6)	160	80	50	100
Cine Neg. Superpan				
Day Light (fig. 7)	100	60	40	120
White Flame Carbon (fig. 8)	80	35	30	160
Mazda Light (fig. 9)	180	80	50	80
With Filter:				
Cine Neg. Panchr.				
Day Light with Agfa yellow filter No. 1 (fig. 10)	100	70	60	100
with yellow-green filter (fig. 11)	100	100	80	80

Regarding the results from figures 5, 6, 8 and 9, one has to consider that although the exposures have not been made with day light the numerical values of color rendition refer to day light. The value 80 for the yellow therefore on Cine Neg. Panchr. with Mazda light (figure 6) indicates that objects of this color appear in photographic reproduction using Mazda light with 80% of the brightness, which the object itself shows to the human eye in day light.

Figures 10 and 11 demonstrate the corrections the color rendition with Cine Neg. Panchr. is undergoing by using filters.

The Agfa yellow filter No. 1 allows to render red and blue perfect, while green and yellow are still too light. In general, this degree of correction will be sufficient. In special cases, where extremely good color rendition is required, the use of a green-yellow filter is needed, which of course has a decided higher timing factor.

Figure 11 represents an exposure using a green-yellow filter; only the green is still somewhat too weak and the blue is a little too far reduced, while the rendition of the remaining colors appears now to be practically perfect.



Left to right, upper row: Figures 4, 5, 6, 7. Lower row: 8, 9, 10, 11

HAL HALL
says

Mr. Alicoate Says a Mouthful

WHILE the picture world has been bemoaning the depression and theatre patronage has been dwindling, a few of us have constantly yipped about the idea of making better pictures on the assumption that if you give the public something entertaining it will pass through the theatre doors. When we heard that the Capitol in New York set a new all-time boxoffice record with Greta Garbo in "Mata Hari" we began to think maybe we were right. And then came more reports of success. Our old friend, Jack Alicoate, Editor and Publisher of Film Daily, had a few words to say on the matter recently in his paper which are so much to the point that we reprint them for you.

"It seems rather bromidic, but it's such a truism that it surely rates constant repetition. Give 'em good pictures and to hell with the rest of it. Nothing else counts. During the past three weeks business has come back with a bang. Boxoffices most everywhere are again playing a merry tune. Why? Pictures, my laddie-buck, and nothing else perhaps. Give a thought to what's what and who's who on the Big Stem right at the present o'clock and you have the answer neatly rolled up in rayon. Garbo in 'Mata Hari' breaking all time records at the Capitol. 'Dr. Jekyll and Mr. Hyde,' a 4-starrer, standing 'em up at the Rivoli. A roll call of further depression busters now playing the big time on Broadway would include the following and as fine a collective ship-load of entertainment as has been offered picture fans in many a day: Paramount's 'Ladies of the Big House.' 'Delicious' from the Fox factory. First National's 'Woman From Monte Carlo.' That delightful bit, 'Strictly Dishonorable,' from the Universal bake-shop. Warners' 'Manhattan Parade' and 'Safe in Hell.' The Universal super-thriller, 'Frankenstein.' Two dandies from United Artists, 'Arrowsmith' and 'Tonight or Never.' 'Hell Divers,' the M-G-M special, R-K-O-Pathe's 'Big Shot' and even a couple of better-than-average foreign pictures. Some of our more constructive thinkers see in the turn of the picture industry the fore-running advance agent of better times. Being the last to feel the effects of the depression, it is not unreasonable to suppose it the first to recover. At any rate, the picture business is off to a good start in the good old year of 1932. And, Long may she wave."

◆

Advertise Now

ONE of the sanest notes we have heard sounded in many months is found in a survey by Roger W. Babson, noted economist, published in the New York "World-Telegram" and copyrighted by the Publisher's Financial Bureau. In this survey Mr. Babson declares that now is the time to plan and start advertising campaigns, and points out that those who prepare now and get the early start in the advertising campaigns will be the first to climb out of the depression.

He also points out that courageous advertisers right now can do more to restore public confidence, stimulate buying and hasten general business recovery than any other group. He says that many advertisers are holding back because they have the impression that there are more unemployed than employed, and points out that eight out of every ten men in the country are working.

Steincamp New Fox Camera Chief

THE reorganization which has been taking place at the Fox Studio has placed William H. Steincamp in charge of the camera and sound departments, with the title of Supervisor of Recording. He is assisted by Bob Bischoff, with Dick Baer acting as camera dispatcher, and handling the assignments of cinematographers and allocation of equipment.

Steincamp has a record of fourteen years service with the Fox Company, during which time he has worked in practically every department, financial, executive, and technical. He was for some time assistant to H. Keith Weeks, who until lately was general manager of the Fox Hills Studio and directly headed the camera and sound departments. More recently, Steincamp returned to the financial department, from which he was assigned his present position. With such a background, he should do well in his present post.

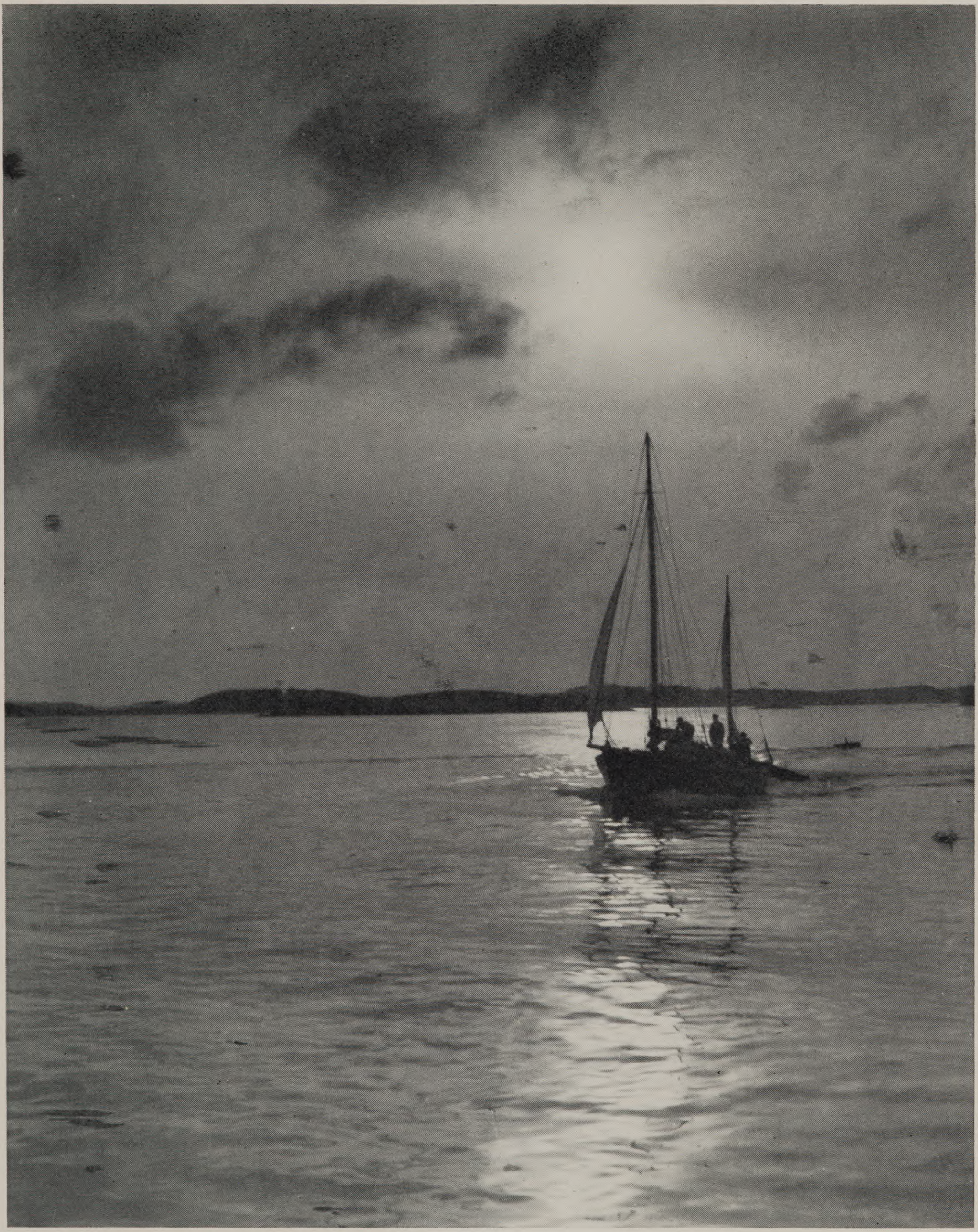
Unlike many incoming executives, Steincamp does not feel any reforms necessary in his department. "We have without doubt," he says, "the finest group of cinematographers in the industry in this department. My only policy is going to be to refrain from trying to photograph their pictures for them. Why should I? They are the best men in the industry, and I have every confidence in their ability to go out on the set and deliver the best in photography. I believe that I can best back them up by letting them do their work unhindered, and doing all in my power to assure them that what they see on the ground glass of their cameras, the laboratory will bring to the screen intact."

Such a policy should guarantee success. The American Cinematographer extends to Mr. Steincamp and his associates its best wishes, and to the executives who chose such men for these important posts, its congratulations.

◆

The $1000.00 Contest

ON ANOTHER page in this issue is an announcement that should be of great interest to those Amateurs using Filmo cameras. The Bell & Howell Company has added two prizes to be awarded the winners in the $1000.00 Amateur Movie Contest which this magazine is now conducting. If the winner of the first prize of $500.00 happens to have made his winning picture with a Filmo, he will receive his choice of a $280.00 Filmo camera or a $298.00 Filmo projector, bringing the value of the first prize to a present maximum of $780.00. There will be more announcements later of additional equipment prizes that will be of interest to all amateurs. This contest bids fair to be the outstanding event in the 16 mm. world this year. Entries are coming in from all parts of the world, and we advise any serious amateur to start now on his picture and send in his entry notice at once. Never has the Amateur been given such an opportunity for personal achievement as in this contest which is sponsored by the American Society of Cinematographers. Amateur clubs in this contest will find an opportunity for recognition such as can be gained in no other way.



Return of the Fishing Smack **Allen Fraser**

Virginia Landscape **Nicola Buzzo**

Rocky Coast **Allen Fraser**

Studio atmosphere

Gordon Head

The New "Artreeves" Recorder

OF INTEREST in the sound field this month is the newly announced recording head placed on the market by the Hollywood Motion Picture Equipment Company to go with the "Artreeves" Recording System.

This recorder has many novel features. It has two sprocket wheels, one acting as a pull down and feed sprocket and also acting as a takeup sprocket. The other sprocket is fed by a loop of film, and its purpose is to move the film over the recording block and feed it with a loop to the takeup sprocket. The recorder is constructed so that binding of the take-up or uneven pull of the magazine will not reflect upon the recording sprocket.

The recording block contains the optical unit which is permanently set in proper position and does not need further adjustment. The optical unit is set to carry a focus on the film in a light beam of .0007 of an inch in width. The recorder uses a standard Bell & Howell film magazine. The recording camera is threaded, as is shown in the accompanying illustration, with two small loops between the sprocket wheels. The idle rollers are thrown in and out by the knobs marked (R) and are locked in positive position. The idle roller opposite the recording block holds the tension on the film so it will travel smoothly.

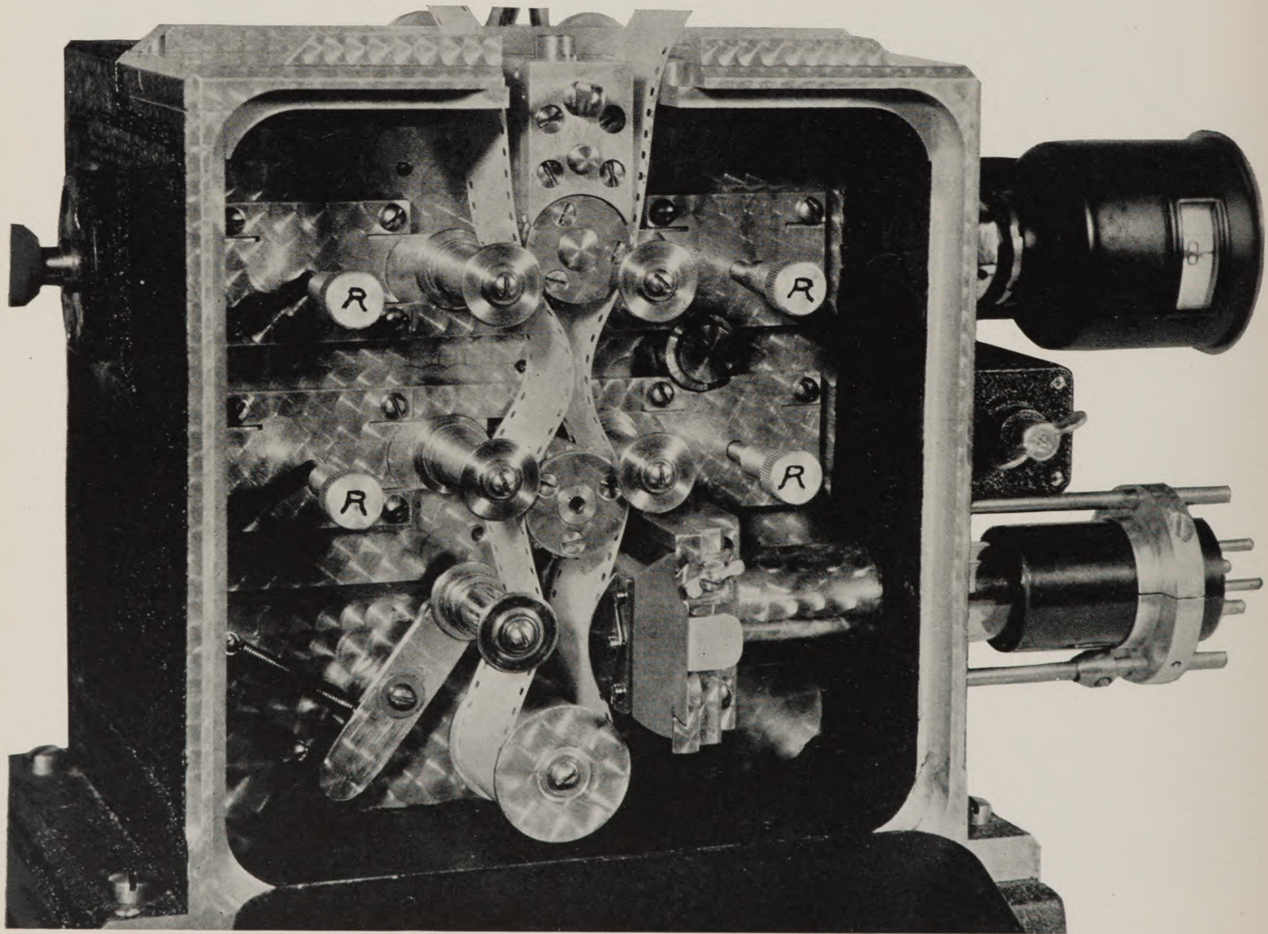
The recording lamp is slid into the recorder as far as it will go. The recording lamp ring is fastened to the base of the lamp by a clamp screw, the stops are slid into proper position so that the lamp may be placed in the same position upon replacement. The cathode of the lamp must be placed in recorder so it is parallel to the aperture of the optical unit. The motor is a D.C. interlocking type, operating on 110 volts at 1440 revolutions per minute. There is a rheostat control to regulate motor speed, which may be read upon tachometer. On the switch control under the motor there is one switch for the recorder, one for the camera motor and three joined together by a bar for interlocking.

The Depue Automatic Sound and Silent Multiple Printer

Another interesting bit of equipment now being handled by the Hollywood Motion Picture Equipment Company is the Depue Automatic Sound and Silent Multiple Printer. As shown in the accompanying illustration, the two center discs on the left side are used when making prints in multiple. Two prints may be made from a single negative in one operation. The first print is rewound on the upper disc while the disc below carries the raw stock which passes through the lower sprocket, making the second print.

This is really two machines in one. The picture is printed on the upper sprocket with the sound track masked off. The sound is printed on the lower sprocket with the picture masked off. Thus the picture and sound track have separate light con-

(Continued on page 25)



The new "Artreeves" recorder

THAT EXTRA MEASURE OF QUALITY

EASTMAN Super-sensitive Panchromatic Negative has consistently brought cameramen the finest ultra-speed emulsion on the market. Now, when coated on gray-backed base, it is an even greater product—one that is rapidly becoming the mainstay of the forward-looking cinematographer.

If you are not yet using this perfected super-speed negative, begin *now* to benefit by the extra measure of photographic quality which it brings. Study it—with the help of your Eastman technical staff—and use it in your next picture. Eastman Kodak Company. (J. E. Brulatour, Inc., Distributors, New York, Chicago, Hollywood.)

EASTMAN *SUPER-SENSITIVE*

Panchromatic Negative (*Gray-backed*)

Concerning Cinematography

Critical Comments on Current Pictures

by **WILLIAM STULL, A. S. C.**

NO ONE MAN

◆ "No One Man" is decidedly the most perfectly photographed picture seen this month. Cinematographer Charles Lang, A.S.C., has good reason to be proud of his work, for it is intrinsically beautiful without being spectacularly "arty," and it adds a deal of production value to an ordinary program picture. Lang had good material to work with in the sets, costumes, and players, as well as an intelligent director to work with: but it is his individual contribution—his cinematic artistry—that raises this film far above the level of the ordinary program picture.

All of the action is played upon rich settings, and Lang's lightings and camerawork enhance these greatly. The sequence in the Florida estate in particular is played against highly pictorial sets, and Lang's camera work adds tremendously to this effect, for he has treated it with such artistry that a pictorial atmosphere far beyond the reach of even the best art-director is established.

His lighting of the players is no whit behind his treatment of the sets. Never, for instance, has Carole Lombard appeared to such advantage. If any criticism could be raised, it would be that in some of the closer shots he has lit the faces a bit too flatly. In general, however, his personal lightings are worthy of careful study by professionals and amateurs alike. The latter, especially, will do well to notice how in many scenes he has managed to light Miss Lombard quite softly, while at the same time employing more virile lightings for the men playing in the scene with her.

PRESTIGE

◆ At the other end of the scale comes "Prestige." Lucien Andriot has done a commendable job under insuperable difficulties, for his hands were obviously tied by director, script and laboratory. The story is intrinsically weak, and it is rendered weaker by the absurd attempt made to secure cinematic motion through incessant camera-movement. Throughout the first half of the picture the camera is hardly stationary for a moment, perambulating unbrokenly in and out of stock-shots, miniatures, exterior and interior sets, and around the actors. All of this movement is done without rhyme or reason, and succeeds only in confusing and annoying the audience. This in itself is bad cinematics, but it is rendered far worse by the fact that it emasculates several legitimate moving shots occurring later, at the climax of the picture. Had the early part of the film been treated conventionally, these later moving shots would have served their dramatic purpose, and added force to a film that needed it badly.

Andriot's lightings are surprisingly excellent when one considers the circumstances—that every scene was lit for a trucking or crane shot. The sets are excellent. There are likewise several really beautiful long-shots taken upon a river while the company was on location in Florida. Andriot has likewise managed to convey a vast deal of the sultry, nerve-cracking atmosphere of the tropics through his photography of the latter half of the picture. In the guillotine sequence, the application of sound as a dramatic aid is also notable. The print viewed was rather poor, and contained a tremendous footage of unusually poor "dupes."

THE SILENT WITNESS

◆ I wish that I could state that this film was the last of that miscegenate race, the photographed stage-plays, but there will probably be many more before the box-office convinces the producers that only genuine motion pictures, made by picture-minded people, are profitable. This picture, unfortunately, won't do it, for it is excellent entertainment, despite the fact that it is a cinematic atrocity. The story and cast are excellent, while the direction and cinematography are absurdly amateurish.

It seems unfair to place the entire onus of these shortcomings upon Joseph August, A.S.C.., the cinematographer, for he is a capable workman, a more than good artist, and a highly experienced cinematographer; yet much of the blame must be his, for the film was directed by two inexperienced men—one fresh from the stage, the other armed with scant studio experience. And in such circumstances, it was August's duty as a cinematographer to see to it that, inexperienced as the directors were, they at least might be protected from making any grave cinematic blunders. Knowing August, the only inference is that his hands were tied either by the front office or by the directors themselves. Certainly, such mistakes were made in profusion, for the cutter was obviously given insufficient material to work with. Entrances and exits were ill-timed for good cutting, the geography of sets was insufficiently painted, and later close shots made from such angles as confused this. It is the cinematographer's professional duty to see that, if the director is ignorant of such details, they are none the less correctly handled.

August's treatment of the purely photographic details of the picture also indicates that something was radically wrong somewhere. Nearly all of the long-shots were made with the camera far too high; some seem to have been made from a parallel, even. The lightings are "early Vitaphone," and practically all of the scenes are photographed without any of the diffusion and softness that the picture needs to bring out the atmosphere of mystery. All of this is distinctly unlike August's usual type of work, and can only be explained by some unusual pressure brought to bear upon him either by the directors, executives, or perhaps the general turmoil in which the Fox studio has lately operated. Some of this trouble, too, is traceable to the laboratory, for the print was not uniform, and was excessively contrasty.

FRANKENSTEIN

◆ Comparisons are always odious, but it is none the less interesting to compare the photographic treatment given "Frankenstein" by Arthur Edeson, A.S.C., with that given "Dr. Jekyll and Mr. Hyde" by Karl Struss, A.S.C. Both stories are of much the same type; both cinematographers are artists and technicians of the highest calibre. And the results are antipodally different.

"Dr. Jekyll and Mr. Hyde" was photographed in a crisp, harsh manner that accentuated the realism of the setting and characters and threw the unnatural character of Hyde into bold relief. "Frankenstein," on the other hand, is treated more conventionally, with moderately soft, low-key photography that stresses the mysterious more than anything else. Each film is superb work in its kind, leaving little room for aught but praise for the directors and cinematographers concerned.

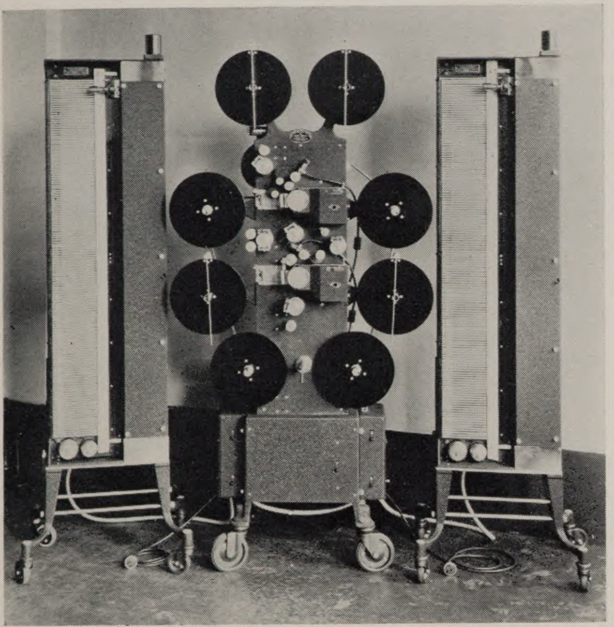
The sequence of the creation of the monster is a particularly striking episode, although greater restraint in the use of both angle-shots and sound would have improved it. The sequence at the village wedding-festival is somewhat overcorrected, but is none the less a remarkable example of atmospheric value as planted cinematically. The sole technical fault of major propor-

(Continued on page 40)

The New "Artreeves" Recorder

(Continued from page 22)

trols but are printed in one operation. This machine operates at a speed of 85 feet per minute. Contact is secured without air pressure. All four rewinds are operated by a single belt 40 watt lamps are used. The apertures on both printing heads are selective. The footage numbers on the edge of the film can be printed if desired.



The Depue automatic sound and silent multiple printer

The Chicago Sound-on-Film Projector

Herman A. DeVry, Inc., has produced an efficient portable 35 millimeter sound-on-film projector which is also on display at the Hollywood Motion Picture Equipment Company showrooms. Simplicity seems to be the keynote of this projector which has been named the "Chicago." It is contained in a case 17x17x7 inches and weighs only 35 pounds. The projector is equipped with DeVry photocell and the sound unit, developed by DeVry, is an integral part of the projector. An adjustable film gate permits the use of silent film as well as that with sound track. The amplifier is of 16 watt capacity. The speed of the projector is controlled by an electric governor which drives the film through the mechanism at a constant speed.

◆

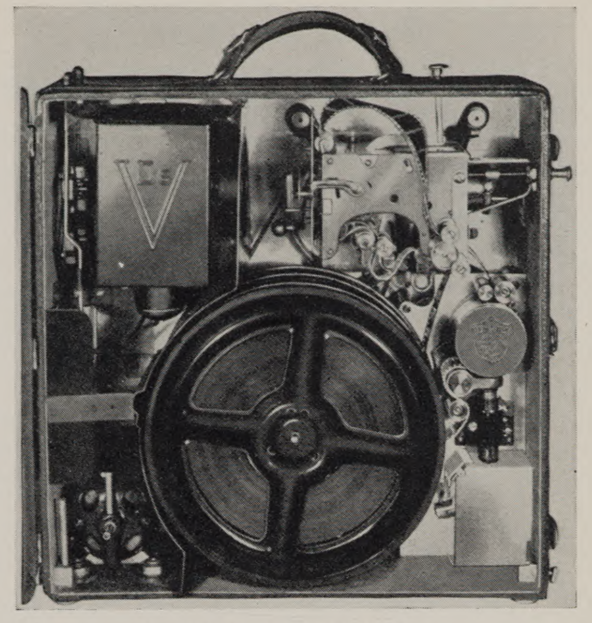
Paramount Increasing Production In England

TO PROVIDE facilities for turning out British pictures well in excess of the quota requirements, Paramount is tripling its production space at Elstree in association with British & Dominion Film Corp. Production under the new layout is expected to be in full swing shortly.

◆

"Grand Hotel"

ONE of the most imposing groups of players yet to appear in one motion picture is found in M-G-M's "Grand Hotel." If names mean anything to the theatre-going public, this one should pull them in. The following appear: Greta Garbo, John Barrymore, Joan Crawford, Wallace Beery, Lionel Barrymore, Lewis Stone, Jean Hersholt, John Miljan, Rafaela Alliano, Purnell Pratt, Tully Marshall, Murray Kinnell, Edwin Maxwell, Frank Cameron, Kathryn Crawford, Ruth Selwyn and Mary Carlisle.



The new DeVry projector

"Silent Talkies" Teach Deaf to "Hear" With Their Eyes

AND NOW they're talking movies for the deaf and hard of hearing. These movies might rightly be styled "silent talkies," at least as far as the congenitally deaf are concerned, for the latter receive no sensation of sound as they view the pictures, though they readily learn to "hear" with their eyes the conversation of the talkie characters.

Ohio State University has been conducting interesting experiments along these lines, according to the Bell & Howell Motion Picture News Service. Under the direction of Dr. G. Oscar Russell, chief of that institution's phonetics laboratories, Miss Marie Mason has been working with talking pictures especially designed to give increased lip reading facility to those of defective hearing.

Talkies in which lip motions and other facial movements, together with body gestures, are introduced according to a carefully determined plan are produced in the laboratory studios. Then the pictures are shown for lip reading study. By means of 16 mm. motion picture projectors the movies can be conveniently shown over and over again until every speech movement and emotional expression has been correctly interpreted.

A talkie sound record, synchronized to the film speech movements, is made on phonograph type discs when the pictures are filmed, and this is used primarily as a control on the validity of the original film to enable the instructors to assure the correctness of every speech movement used by the talkie characters. Frequently, for example, the characters in a talkie may make motions with their lips without uttering a sound. Instances of this and similar character are detected by means of the talkie record, and the film is then re-edited or retaken so that these may be eliminated and hence not confuse the learners and have them "hear" sounds that were never made.

Doctor Russell states that practically one-tenth of all college students in this country and Europe are shown by careful surveys to be afflicted with hearing difficulties severe enough to result in failures in their studies. Due to the introduction of the talkie visual hearing instruction method at Ohio State, he asserts, student academic failures due to defective hearing have been measurably decreased.

It is easily conceivable that any one with defective hearing can, by viewing with a home movie projector right in his own living room such movies as Doctor Russell and Miss Mason have been experimenting with, gain fine lip reading facility.

Common Sense and Camera Angles

(Continued from page 9)

way to photograph the scene would be from the normal eye-level. On the other hand, a shot of the group taken from directly above might be enormously effective intrinsically: yet it would be entirely out of place unless there was a legitimate dramatic reason for it. If, for instance, one of our characters is a spy, or a criminal, hiding in an upper floor of that house, and eavesdropping upon this conference through a hole in the ceiling, such an angle-shot would be vitally necessary, for it would give the audience his reaction to the situation in a way that nothing else could. Similarly, if he were hidden under some piece of furniture in the room, a shot of the group at the table from an unusually low angle would be equally desirable, for the same reason.

But the use of camera-angles extends beyond this. It definitely enters the realm of the psychological. It can convey the underlying significance of a scene as nothing else can. Take, for instance, a sequence from "Dr. Jekyll and Mr. Hyde." Dr. Jekyll has suddenly found himself transformed, involuntarily, to Hyde, with no way of returning to his laboratory to secure the chemicals necessary to return him to his real self. In his extremity, he is forced to call upon his friend, Dr. Lanyon, who brings the necessary potions to his own house, where Hyde is forced to use them to restore himself, changing back to Jekyll before Lanyon's horrified eyes. In the scenes which follow, Jekyll, physically and emotionally exhausted, pleads with his friend for forgiveness. Double strength was given to these scenes by the camera angles used. Jekyll is crumpled up in a low chair, pleading piteously with his friend; Lanyon sits behind his desk, which is on a dais, as one on the Throne of Supreme Judgment. The angles from which each is photographed subtly heighten this contrast: Jekyll is always photographed from above, looking up into the camera—an abject suppliant. Lanyon is always photographed from below, looking down at the camera—a stern and uncompromising judge. To enhance these visual contrasts, I placed Jekyll in the lowest chair in the studio, and Lanyon (already on a raised platform), on the highest, severest chair in the studio, to which I added three-inch lifts under the legs.

The same ideas must apply to camera movement, as well. The idea that camera-movement will give cinematic movement to an otherwise static scene or study, so prevalent among directors and executives, is basically false. Camera movements, used where there is no dramatic necessity for such movement, injures rather than aids a picture. It focuses the attention of the audience on the mechanical rather than upon the story, and confuses instead of clarifies the issue. Unjustified movement is a sign of directorial weakness, rather than strength.

Once camera movement is decided upon as dramatically necessary, however, director and cinematographer must cooperate closely in realizing it with the utmost of technical and artistic perfection, for a badly-executed move is worse than none at all. Many factors must be considered: speed, direction, angle, and above all, rhythm. The preceding action will inevitably have established a definite dramatic (and often physical) tempo or rhythm: the moving-camera scene must follow out the same rhythm, or, in some rare instances, increase it.

These moving shots must, of course, be perfectly conceived and rehearsed. Rehearsal is vital, for if they are not well rehearsed, the mechanical element is likely to intrude, and tear down all the atmosphere that you have been at such great pains to build up. These scenes, too, demonstrate the necessity for photographic-mindedness in the director; otherwise, he may impose upon his camera crew scenes that are photographically impossible. Similarly, the cinematographer must be sufficiently a director to know when such scenes are dramatically necessary, and when more conventional methods would be preferable.

Another point where cinematographer and director must be perfectly agreed is the mood of the photography which best suits the picture. Too many directors are satisfied to take whatever the cinematographer chooses to give them in this respect; too many cinematographers are willing to treat everything conventionally, overlooking the dramatic value of a scene in an effort to make it prettily pictorial. But some stories demand one type of photography, others demand a different type. Some, like, for instance, "Smilin' Through," demand photography that stresses the romantic elements—soft, delicate, pictorialism. Others, like "Dr. Jekyll and Mr. Hyde," demand virile, realistic, almost brutal treatment. Of course, realism does not connote any abandonment of the principles of composition or lighting, but it does signify an abrupt departure from mere conventional prettiness. To my mind, "Dr. Jekyll and Mr. Hyde" gained force from the fact that both Karl Struss and I were early agreed that realistic, harsh photography was best suited to it. Karl's treatment of it at once heightened the realism of the central characters, and threw the character of Mr. Hyde into sharp contrast by ruthlessly exposing its unreality. Let me also pay Mr. Struss a richly-deserved tribute for this achievement, for the complete bouleversement of his usual artistic style revealed him to be an artist of the highest calibre.

Motion pictures are bound to progress mightily as cinematographers and directors alike learn more and more of the dramatic uses of the camera, and as they learn to cooperate more closely and understandingly. Artistically speaking, the Art of the Cinema is yet young, though its technique is well developed. It is a fascinating field of effort, for we are still pioneers: upon us, the directors and cinematographers of today, depends the artistic future of this new medium. Out of our mutual understanding and cooperation today will come the artistic developments of tomorrow. The full development of this new medium, the speaking cinema, rests with us, to establish its conventions, and to make it the powerful medium that it can be.

◆

What! Another Hollywood?

IT IS REPORTED at Cannes that a group of powerful European financiers will soon launch a scheme to build a great film colony in that city, making it a European rival of Hollywood. Land, it is reported, has been obtained just outside of Cannes—130,000 metres in area—upon which ten fully equipped studios will be erected, along with hotels, restaurants, villas, a casino and a zoo. The new venture is to be known as Cannes Film City. Work will get under way, it is believed, in the very near future.

For Best Results in Cinematography—Use

Max Factor's Make-up

"The Preference of the Profession"

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Now used in **96%** of all Motion Picture Studios **EVERYWHERE**

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Max Factor's Make-up Studios

HOLLYWOOD CALIFORNIA

..In the Realm of Sound..

Sound in Public School

THE FIRST step in the recently announced program to test the potentialities of the sound motion picture as an aid in teaching in the New York public schools was taken last month when contracts were signed for the installation of RCA Photophone sound reproducing equipment in the new Samuel Gompers Industrial High School for Boys, 145th Street and Wales Avenue, The Bronx, which is now under construction and which will be open in September. The equipment, one of the recently introduced all AC operated types, will be installed in the assembly room which will have a seating capacity of 724 persons.

Provisions for the installation of motion picture apparatus having been made when the plans for the new building were drawn, the projection booth and necessary wiring throughout to the loud-speaker apparatus behind the screen, will be modern to the most minute detail.

Dr. Eugene A. Colligan, Associate School Superintendent in charge of the visual instruction activities of the New York Board of Education, recently announced that he had suggested experimenting with sound pictures and it is said that other installations will be made in high schools within the next few months.

Dr. Charles Pickett will be principal of the new Samuel Gompers High School which will have a pupil enrollment capacity of 1696 boys. In addition to sound motion picture apparatus, the new school will be equipped with a complete radio communication system with outlets and speakers in all parts of the building. A radio control room will adjoin the principal's desk and through the medium of a microphone, the principal will be able to speak to one or all rooms or even to students upon the outdoor courts. Seventy-six loudspeakers will be located at various points of vantage.

◆

Film Scale Measures Footage, Running Time

MARKETING of a film scale which enables a projectionist to tell at a glance, before the show, the approximate footage and length of time necessary to project the regular show and trailers, has been announced by King Cole's Entertainment Service, Inc., of New York.

The device has a small running slide on the scale which rests on the rim of the reel while the scale itself is pushed down until contact is made with the film. The reading of the film scale at the point of the slot on the slide, it is declared, will then give the approximate footage and running time at 90 feet per minute.

With the aid of the film scale the projectionist has been able to gauge his show to within one minute of the actual showing time of a two-reel program, the company declared.

◆

New Paramount Silencer

A HEAVY paper, made of wood pulp, and a half-inch thick has been invented by scientists, under the supervision of sound and acoustic experts at Paramount's Hollywood studios, for use on floors of settings to muffle footsteps. This solves a costly and troublesome problem for producers, as such noises often interfere with dialogue recording. The new floor paper was tried successfully for the first time in the making of "This Reckless Age."

New Arcs For Fast Film

E. A. WILLIFORD, manager of the carbon sales division of the National Carbon Company, announces that new arc lamps are now in process of development which will incorporate the qualities of quietness, remote control, low maintenance cost and high efficiency.

An interesting folder reveals the fact that the National Carbon Company has been very actively engaged in experiments with arcs and the new fast film. Photographic results as shown in the folder would indicate that much success has been met with. The National Carbon Company is stressing the following points of advantage in the use of arcs: depth, full roundness of modeling, distinct color separation and natural blending from deep to lighter hues, accurate color tone values with no over-correction and consequent flatness, softness of pictorial effect, and economy because of photographic speed.

◆

Cutler-Hammer Puts Out Current Control Device

A NEW automatic current controller for arc projection machines, designed to replace the usual knife switches used to control the current to the carbons of the projection machine, has been put out by Cutler-Hammer, Inc., of Milwaukee.

The controller proper, it is claimed, can be mounted with the resister in any out-of-the-way place. Only the push-button master switch is mounted on the machine, near the operator. By simply pushing the "start" button of the master switch, the operator obtains a low current for warming carbons. Then after a definite time interval the transfer to high current for normal projection can be made by pushing the "run" button in the master switch. The definite time interval (about one second) which must expire before the projectionist can transfer from low or starting current to the high running current, assures that the carbons are sufficiently warm, thereby preventing sputtering and its resulting damage to the craters and reflectors.

The single control scheme, it is declared, gives the projectionist more time to adjust properly the carbons of the machine, assuring better operation, less maintenance and greater safety.

◆

RCA in Texas

RCA PHOTOPHONE, INC. has been awarded a contract for the installation of sound reproducing equipment in twelve state institutions in Texas according to announcement by E. O. Heyl, Vice-President and General Sales Manager, at the corporation's office, No. 411 Fifth Avenue, New York City. The award was made by the Board of Control of the State of Texas at its office in Austin which rendered its decision following the opening and consideration of sealed proposals that had been submitted by RCA Photophone and other leading manufacturers of sound reproducing apparatus.

Burt King, district representative of RCA Photophone in Texas, conducted the preliminary negotiations.

The contract covers the installation of eleven special size all AC operated sound reproducing units which were designed for auditoriums up to 500 seating capacity and one standard size all AC operated unit which was designed for auditoriums up to 1200 seating capacity. It is said to be the largest single contract of its kind ever awarded.

Laboratory Department

Conducted by **EMERY HUSE, A. S. C.**

Principles of Sensitometry and Their Practical Application

Part 10

SENSITOMETERS of the non-intermittent or continuous type are, at the present time, the only acceptable sensitometers available. It has been shown previously that certain errors enter into precise sensitometry when based upon the intermittent exposure. The non-intermittent instruments are of relatively recent application, but several investigators have made a study of sensitometry based upon continuous exposures.

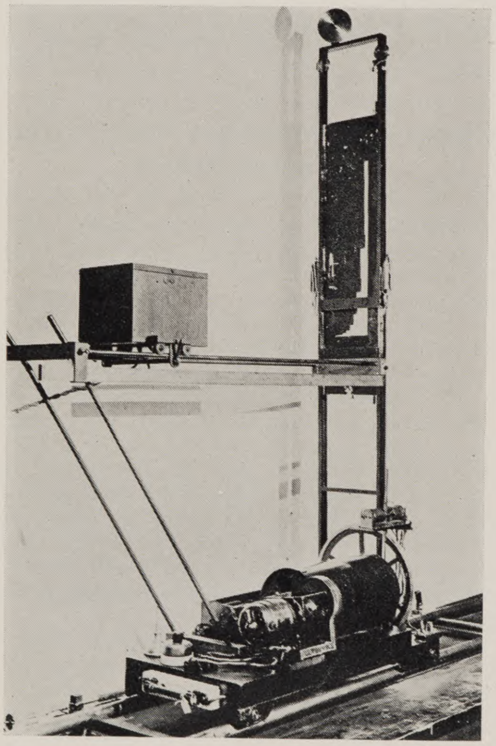


Fig. 8

The errors inherent in time scale instruments of the rotating sector wheel type have led to the development of several types of instruments in which this objectionable feature has been removed. In Figure 8 there is shown a form of sensitometer of a non-intermittent type. This instrument consists of a slotted plate carrying a series of apertures varying logarithmically in length, the plate being guided by vertical ways and driven at a uniform linear velocity by means of a motor driven chronograph mounted on the base of the instrument. The motor used is of the governed type, thus giving a relatively high precision timing. This plate as it descends passes in front of the photographic material held in a container placed on the opposite side of the falling plate from the light source. Other forms of instruments using a slotted plate have been made, in which the plate travels across the photographic material. An instrument of this kind is also actuated by electrical means. Another form consisted of an opaque which is allowed to drop at predetermined intervals in front of the photographic material, thus cutting the illumination incident on various areas at a series of times so calculated as to result in the desired time scale of exposure. An instrument of this type is also electrically operated.

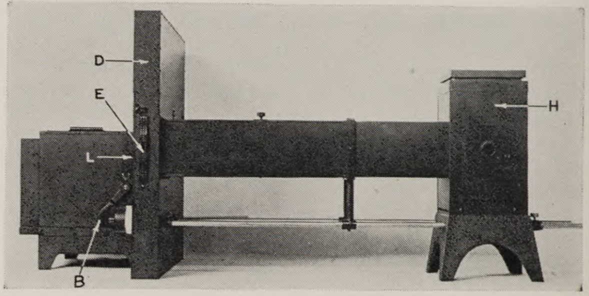


Fig. 9

Where it is desirable to use a series of exposure times which are relatively short, a better plan of sensitometer is one in which a sector disc is allowed to operate continuously at a fixed and relatively high angular velocity and then to use a selector shutter operated in synchronism with the sector disc so that the photographic material is subjected to illumination resulting from only one cycle of the disc. Various sensitometers based on this general principle have been made. One such instrument is shown in Figure 9. The sector wheel in this instrument is mounted in the housing D, the standard light source in the housing H, and the sensitive material is held in position in the exposure plane by means of a holder E. The driving mechanism which consists of a synchronous motor is mounted on the base at the extreme left and a one-turn mechanism serves to pick up the sector disc and carry it through exactly one revolution.

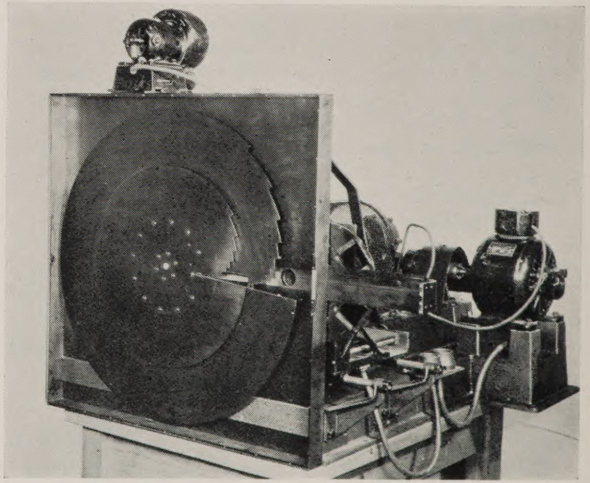


Fig. 10

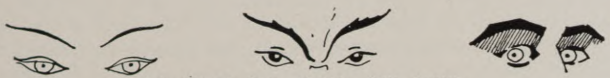
A sensitometer of similar design, Figure 10, has been built in which the exposure time scale is extended to much shorter times by the use of a one sectored disc mounted on a shaft

(Continued on page 46)

What's What *in* Make-Up

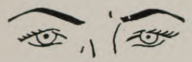
The Eyebrows

The accompanying illustrations show only a few of the striking types that are characterized by the arrangement of the eyebrows, features that are especially notable in the Oriental, Svengali and Mephisto types.



Left: Oriental. Center: Mephisto. Right: Svengali

In the Oriental eyes the brow is quite a distance from the upper lid and the eyes take on a decided almond shape. The shape is created with the dermatograph pencil, extending the line on the lower lid at the outer corner of the eye upward to be parallel with the new eyebrow. The line on the upper lid extends slightly down on the nose on the inner corner of the eye.



Angry

Haughty

The Svengali eyebrows are decidedly pronounced. Heavy and close eyebrows are most always associated with brutal, fiendish types. Mephisto's pointed nose and chin by no means consummate the character. The eyebrows properly shaped complete his characteristic expression.

Scars

There are many types of scars. When it becomes necessary to make a scar, we should understand its construction and the art of creating a realistic effect. There are many methods, but we will describe in detail the simpler ones known to the profession.

1. Welts—The average scar appears as a welt and not as an indentation. It is caused by a blow, and is somewhat different from that caused by a knife wound. This type of scar can be created by the use of a nose putty. Apply the nose putty over the scar area, building up in the center and smoothing off the edges into the foundation make-up. The raised surface may be colored with a grey-blue lining color, No. 6, accentuating the bruised part of a welted scar. The line of a scar should be irregular and never straight.

2. Indentations—(Use of Collodion). Non-flexible collodion is used for making indentations—it gives a realistic effect. Apply it with a brush directly on the place where the scar is desired. Allow to dry, and if the recession is not deep enough, apply another film of collodion and allow to dry. Repeat until recession is as desired. Usually, three or four applications are sufficient. Collodion scars may be removed by dissolving with Acetone, or they may be peeled off.

An identation scar may be effected by the use of nose putty. Spread it well over the spot where you wish the scar, raising up the center and smoothing the edges well into the complexion. Then, with a paper stump or any similar instrument, make a crease in the center and line it with dark Red color, No. 9 lining color. High light with No. 11 Yellow, or No. 12 White and blend the edges well together.

3. Old, Flat Surface Scars—In making an old scar, it is a matter of resembling the discolorations by the use of proper colors. Scars may be of any conceivable size or color. The dark parts of scars require a low light—a No. 9 lining color, Maroon. Highlight edges with a contrasting color, a No. 12 White or a No. 11 Yellow. The illusion is completed when the edges are carefully blended. Some scars can be made to appear very natural by touching up here and there with a little Purple, No. 8, and Yellow, No. 11.

Cauliflower Ears

To create the natural effect of a cauliflower ear, take a piece of cardboard about half an inch wide by an inch and a half long and cut it. Place a hair-pin in the center, the length of the cardboard, and fasten it with tape that is adhesive on both sides. Bend to form an angle, as illustrated. Then attach behind the ear, one-half adhering to the head, the other half to the ear, forcing it out at an angle. Then model inside of the ear with nose putty, giving it the puffy appearance of a cauliflower.

The Teeth

In the ensemble of our features the teeth contribute much to the expression of the face. If they are discolored or too far apart these defects destroy much of what would otherwise be a pleasing expression. When teeth are too far apart the spaces may be filled in with gutta percha especially prepared for the layman's use. Discolored teeth can be effectively concealed by the use of tooth enamel, a preparation for giving teeth a uniform coloring.

Black tooth enamel, a quick drying film-forming liquid, is used to block out teeth for grotesque characters, such as old hags, witches, misers and comedy parts.

Your Make-up Materials

The amount of make-up material that is necessary to keep on hand will vary according to the purpose and interest of the amateur or experimenter, or the amount of work of the professional. Enough make-up should be on hand to complete whatever type or character you intend to portray, as the absence of a preparation would impair your success. Character requires a larger number of shades of grease paint, powders linings, etc. A complete list of the requirements for the Professional or the Amateur is as follows:

Grease paints, lining colors, face powders, lip rouge, dry rouge, under rouge, cold cream, clown white, burnt cork, nose putty, liquid make-up, black masque, white masque, tooth enamel, black tooth enamel, spirit gum, collodion, crepe hair, assorted shades, combs, scissors, chamois liners.

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W. E. Replacements

REPLACEMENTS of other types of equipment with Western Electric Sound Systems now total 2,232, according to C. W. Bunn, General Sales Manager of Electrical Research Products. Of this number, 1,736 are domestic replacements and 496 in the foreign field.

In the Art Director's Field

The Set As An Actor

by **CEDRIC GIBBONS**

Supervising Art-Director, Metro-Goldwyn-Mayer Studio

IT may seem to many of us that a motion picture set is "just a set"—and nothing more. But a properly designed and photographed set can often be much more: it can be an actual actor in the scene. It can play an heroic part, or a villainous one—and it can, if story, set-design, direction and photography are not perfectly synchronized, likewise be as much a camera-hog as any living actor.

It may seem far-fetched to consider that a set—a mere background—can be an actor; but let us consider, for instance, the part that the sets play in such a film as "Grand Hotel," which is now in production. All of the action takes place in a great metropolitan hotel—one of those perfectly regulated modern palaces in which, as the old doctor complains, "nothing ever happens." And yet, during the short course of the story, a baby is born, a woman nearly commits suicide, and a man is murdered; a poor clerk, with but three months to live, comes there to live in luxury during his last days, and a great but ageing dancer finds life intolerable because, although deemed a success, she finds success and romance eluding her. Surely here the sets must be actors as well as backgrounds. I believe that that was the conception of the author: at any rate, I have tried to express it in my sets, and I know that Edmund Goulding and William Daniels are directing and photographing the picture with the same thought in mind. In the public rooms of the hotel—the lobby, the great dining room, and the corridors—the sets must surely be actors, for by their magnificence they must motivate much of the action. On the other hand, the bedrooms—especially that of Grusinskaia, the dancer—must be merely pleasing backgrounds to the dramatic action carried by the human players. Such differing dramatic purposes must be taken into consideration not only in designing the sets, but in realizing the action transpiring upon them.

Now, how are these ends to be attained? In the first instance, where the sets must be actors, by so designing the sets as to emphasize the splendor of the great hostelry's public-rooms, and further, painting them in colors that present vivid photographic contrasts, so that, even though in most of the closer shots the set may be somewhat out of focus, the audience is always conscious of the set. In the second instance, where the set must serve solely as a background for the dramatic action, by keeping both the design and coloration of the set severely plain and simple, so that the set does not attract the attention from the action. The cinematographer's handling of these sets, too, plays an important part in determining whether the set is actor or background, for if he wishes it to be (as in the first instance) an actor, he can light it in such a manner as to aid it in attracting its share of attention from the spectator, while if he wishes it to be but a background, he can light it less obtrusively, and concentrate his lighting effects upon the players.

The greatest discretion, of course, must be observed by both Art-Director and Cinematographer in determining whether any given set be treated as an actor or as a background. The dramatic and psychological requirements of story, characterizations and scene must all be carefully appraised before the decision is made. Obviously, no inflexible rule can be laid down for this: for although it is axiomatic that the best sets are those which do not attract attention to themselves, the reverse, as indicated above, is frequently true. It rests, therefore, with the artistry and dramatic sense of the Art-Director and Cinematographer to decide what is to be treated according to rule, and what is to be made an exception.

The choice of camera-angles is another factor which must be considered in this connection. Certain directors—rightly or wrongly—have a penchant for shooting their long-shots through parts of the set, as through a frame. At times, this can prove highly effective—but as a rule it is otherwise, for it is both bad art and bad dramatics. In the first place, it is usually painfully obvious. After all, the camera represents (or should) the eye of the audience; and when we look at a thing, we concentrate our attention on the thing itself—not on such objects as may lie between it and our eyes. If we look out into the street through a window, and see a friend walk by, we lose consciousness of the window-frame, and focus on the person going by. If we stand by the window, and the cord and ring of the curtain is in our way, we step aside, to gain an uninterrupted view. If we are in a large room—say a hotel lobby—and our friend approaches, we see him—not the chairs, pillars, and potted palms between us. This same natural habit should guide us in photographing such scenes for a motion picture. Using a part of the set, or deliberate "masking pieces" to frame a long-shot may make an individually attractive scene, but it also detracts from the dramatic value of the scene, and slows the tempo of the sequence. The only exception, of course, is in instances where it is deliberately intended to call attention to the set—where the set itself is an actor. But even here, this habit of framing action with part of the set must be approached with restraint, for if too frequently repeated, it becomes ineffective and monotonous. Frequently at some point in the story such a shot may serve a legitimate dramatic purpose: but if too many of the preceding long-shots are treated the same way, for no dramatic reason, but merely to be arty, the really important shot is emasculated.

On the other hand, in certain cases, where a shot is made from an unusual angle—either unusually high, or unusually low—art, realism, and dramatic purpose all demand that such foreground objects be included. Let us, for instance, imagine that we are shooting from a platform of the New York elevated at a group of tenement-children playing in the street. In such a case, the feeling of the scene will be perceptibly heightened if we include the top of a telegraph-pole, with its crossbars and wires, in the foreground, and several other complete poles in the background, or, alternatively, if we place our camera so that we include the whole of the first pole in the scene: this will aid in conveying the impression of height, not only by the well-known laws of perspective, but also by the subconscious reaction to seeing the top of the pole—which everyone knows to be twenty or thirty feet high—in the foreground of the picture. Similarly, a great deal of the punch of shots of an approaching train, made with the camera buried in the center of the track, is due to the perspective furnished by the two lines of the shiny rails converging in the distance.

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New Catalogue From Hollywood Camera Exchange

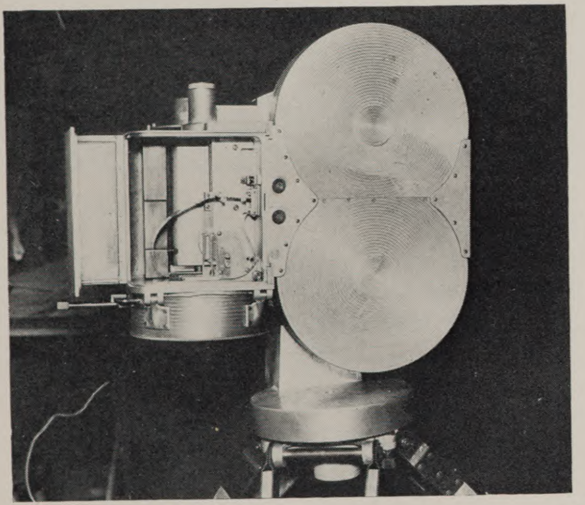
FOR those who are seeking real bargains in photographic supplies and equipment, a new catalog just issued by the Hollywood Camera Exchange, 1511 N. Cahuenga Boulevard, Hollywood, Calif., holds much of interest. Hundreds of bargains are listed in this catalog which is profusely illustrated. Both amateurs and professionals will find equipment of interest.

New Studio Camera

(Continued from page 12)

rather than with a curving motion. The movement is very quiet, even in the present experimental model; in the production models now being built, the movement should be even quieter, as the cam will run in an oil bath.

An unique feature of the Tally camera is the fact that there are no sprockets in the camera itself. These are, instead, placed in the magazine, where, in conjunction with idling rollers, they form an effective light-trap when the magazine is closed, and greatly simplify the threading operation, which, according to Mr. de la Garde, can be performed in 17 seconds. The magazines are further unique in the fact that they open book-wise, with a hinge along the lower edge. The film is easily dropped into place, and threaded around the sprockets and idlers; then the magazine is snapped shut, and becomes perfectly light-tight. To load the camera, the magazine is slid into its place beneath the camera-head; this automatically connects the sprockets to their shafts, and the positively driven feed and take-up spindles to their respective shafts. By means of convenient knurled knobs on the magazine, the sprockets push up enough film to form the loops, and the film is threaded through the aperture and engaged automatically with the pilot pins. A useful safety feature in this connection is that the pilot pins may be locked in their open position for threading, and this automatically locks the entire movement.



Another view of the new camera

The lenses are mounted in the conventional four-lens turret mount, which is hinged and swings forward, giving access to the rear cells of the lenses, and to the 240 degree shutter. The turret may also be completely removed in a minute or less. Focusing is done by moving the entire turret, giving the lenses a movement absolutely perpendicular to the focal plane, and without any rotation. The image is focused through the photographing aperture, upon a ground-glass screen set in a magnifying focusing tube which is dropped into place by a lever at the rear of the camera. A second lever moves the film out of the way, after which the magnifying tube is dropped into position, enabling the cinematographer to focus upon a ground glass, through the regular photographing aperture, and with the lens in actual photographing position, at any time, without moving any part of the camera, or unthreading the film from the movement.

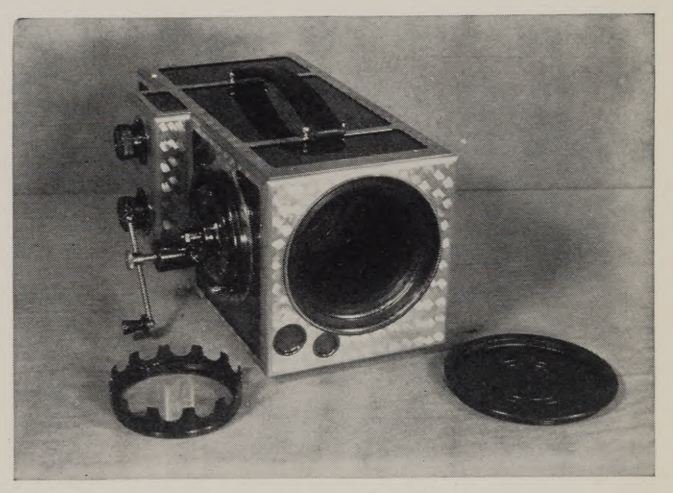
The camera is not regularly fitted with a dissolving shutter, although such can be provided if desired. Provision is also made for the attachment of any type of driving motor that the studio or sound system used may require. The production models will likewise afford ample space for the installation of single system recording lamps. For this latter purpose, especially, the camera's built-in tachometer should prove valuable.

New B. & H. Lens Eliminates Crane Shots in Professional Movies

THE BELL & HOWELL Company announces a development of first importance to everyone interested in the technical side of professional motion picture making—the new Varo lens.

This totally different lens opens up a wide range of new possibilities and spectacular effects. It makes it possible to "swoop" or "zoom" down on a subject and to recede from it without moving the camera or scene. "Close-ups" can be taken in sound photography work without danger of extraneous noise. "Zooming" scenes from far back to close-up can be taken of actors on a cliff or other inaccessible locations. The new effects that skillful camera men will work out with it are many.

The new Varo lens is set to focus on a definite position and is not focused like the ordinary lens by moving the lens unit nearer to and farther from the film. It is set normally to focus at 150 feet to infinity. Supplementary lenses, screwing into the front of the lens, are available for changing the focus for other distances.



A view of the new Varo lens

After focusing, various elements in the lens are moved in a synchronized relation, the focal length changing in smooth progression as the position of the elements are shifted. Even though these elements are changed continuously in zooming, the definition is critical at all points.

Shifting is by means of cams designed and cut to an extremely fine degree of accuracy. Since changing the focal length or magnification involves changing the iris continuously to correspond, the iris diaphragm is also operated by a cam at the same time as the lens elements. A locking arrangement and dashpot device in the iris mechanism avoids any possible damage to the iris due to incorrect operation. A "breather" takes care of displacements of air occasioned by moving the lens elements.

The shortest focal length of the Varo is 40 mm. The longest is 120 mm.—a 3x magnification. The range of the lens is 40 to 50 mm. at F 3.5; 40 to 85 mm. at F 4.5; and the complete range of 40 to 120 mm. at F 5.6 and F 8.

Every camera man, every director, every one interested in technical progress in the motion picture field, will be vitally interested in the possibilities of the new Varo lens. This lens will be made on special order only.

Amateur Movie Making

by **WILLIAM STULL, A.S.C.**

THERE are three definite stages in the production of a professional motion picture: Preparing, Shooting, and Cutting. Each is vitally important to the success of the picture, but perhaps the most important is the first, for if every detail of the production is not carefully and completely prepared for beforehand, not only will there be exasperating and costly delays, but the finished picture will inevitably fall short of being the polished and coherent entity that it should be. The same must likewise hold true for amateur films—particularly for amateur photoplays, or for any such ambitious effort as entries to the American Cinematographer's great Contest. Therefore, amateur filmsters (whether they intend to enter the contest or not), will do well to take as great pains with the preparatory stages of their productions as they do in the actual shooting.

The exact nature and extent of the pre-photographing preparatory work must, of course, depend upon the type of production, and upon the producer's personal tastes, experience, and facilities. But regardless of all of these, the more painstaking and detailed the preparations, the better the picture will be.

Let us consider the preparation necessary for the filming of an amateur photoplay by a small group. The exact arrangements necessary for other types of film, or for the work of either individuals or large groups can easily be adapted from this.

Organization First!

The first step, of course, is to gather your group together. The group may be a formal club, or merely a group of friends interested in the project of making a picture. The only requirement is that they all be serious about the undertaking, and sufficiently enthusiastic to be willing to put in the necessary hard work—for making a motion picture is the hardest sort of work, even though there is a lot of pleasure mixed in with it. But, consider the group gathered: someone must head it—someone must have the power to make decisions and assign responsibilities. That person had better be the director. He must have the knack of leadership, tact, diplomacy, and the willingness to work twice as hard as any of the rest: for the success of the enterprise will depend upon his ability to work hard, and to make his associates glad to do the same. He must know how to supervise every detail without interfering with the apparent freedom of action of those to whom he has assigned these details.

The first detail is, of course, the selection of a story, and the preparation of a scenario from that story, as outlined in these pages last month. Then come the less obvious—but important—details of organizing for production.

Here is where the responsibility must first be divided. Somebody must be responsible for the photography. The director can do this, but, if there is anyone else who can serve equally well, the director had far better concentrate on his own job, and let him concentrate on the camera work.

Then, somebody must be responsible for the choice of the locations used for making the scenes. These locations must be chosen with an eye to dramatic and photographic suitability, and to accessibility, as well. There is a standing joke among studio people about the producer who, when a director wanted to take his troupe to Yosemite for scenic backgrounds, told him, "A rock is a rock, and a tree is a tree—shoot it in Griffith Park!" It may be funny, but there is a lot of truth in it, none the less. Transporting a producing unit—even an amateur one—to a distant or inaccessible location costs time, money, and trouble. So if a handier place will serve as well, or can be made to do so by judicious intercutting of long-shots made in one place with closer action shots made in some handier place, it is a good policy to do so. If the picture is to contain interior scenes, these, too, should be chosen by the location man, with an eye to dramatic suitability and to photographic suitability as well. You will want room enough to make long-shots, and to arrange your lighting-units—to say nothing of the proper wiring and current for the lights.

The next step is to make someone responsible for the various properties used. Any object used in a picture—whether it be a Rolls-Royce or a can of fish-worms—is a "prop." Your property-man must know just what is to be used, when, and where—and must be sure to have it available when needed.

The same holds true of the costumes of the players. If the group be large enough, a wardrobe mistress is a real asset, for she (or he, as the case may be) can take the responsibility for seeing that every player is properly costumed, and has the right costumes available for each scene, without forgetting anything. In professional films, where the leading players may have several changes of costume, each change is given a number, and the player is notified just what to have ready each day by number, as, for instance, you will see on a company call board, specifying the sets and players to be used on any given day, "Ann Harding—3—9—11. Leslie Howard—4—7."

If there is much moving around to be done between the locations, someone should arrange the transportation facilities. It is very embarrassing to start the day on one location, then to be faced with a move of several miles—and find you have ten people to move, and only transportation for six.

If the group contains someone with a knowledge of makeup, he should take the responsibility for this. In the studios, even the biggest stars work under the direction of a makeup man, who sees to it that the makeups are properly applied, and that they are all coordinated so that, for instance, the leading lady will not appear with a dark makeup and her leading man with an excessively light one.

Having done all this, these experts must get together, and make a "shooting schedule" or "production breakdown" of the script. In this, the script is carefully studied: the scenes made on each location are listed, the properties, costumes, players, transportation, etc., required for each is tabulated. Thus, when the actual shooting is started, there will be no wasted time or effort. Each person knows where to go, what to have, and when he will be needed. Production can be arranged in such a way that the locations that are near each other can be used in the most effective order. Similarly, if you have one player whose time is for any reason limited, and several whose time is less important, you can film all of the scenes requiring that one player in the minimum possible time, get his or her part of the picture over quickly, and then do the rest of the picture as conveniently and unhurriedly as possible. If necessary, you can use a double in long-shots, and make closer shots of the important player elsewhere, in more convenient locations, taking care, however, to match the background as well as possible. I recall one picture that I made many years ago in which instances of both occurred. I was paying my star several hundred dollars a day—so I arranged my schedule to permit me to get through with her in one day. The rest of the cast was not expensive, so I took several days with them. Unfortunately, one man was injured before he finished his part, so thereafter I re-wrote the script so that I could

(Continued on page 47)

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Hunting Dalli Sheep with a 16 mm. Camera

by **V. A. MORGAN**

● Mr. Morgan, the author of this article, is an enthusiastic amateur and has entered an extremely interesting picture of sheep hunting in the $1000.00 Amateur Movie contest which this magazine is now conducting.—The Editor.

SOME people find their pleasure in swimming; some golfing, playing tennis, bridge and in countless other ways For years I have found mine in hunting and fishing. To me there is no pleasure such as wandering off into the far places away from the haunts of man; to pitch camp in the rugged mountains, heavily timbered with fragrant pine and spruce. In other words, to get away from the clang of trolleys, the shouts of leather-lunged newsboys and the honk of automobile horns. In place of those noises to sit beneath the trees as evening comes and listen to the roar of the wild turkeys as whole flocks swish through the air and finally settle to roost in the nearby treetops; to be awakened in the morning by the gobbling of the head of the turkey house. Or, to sit quietly in the early morning hours and watch the deer drinking at a stream and then at your shout, dash swiftly away into the brush while you chuckle to yourself at their nervousness. If they only knew me they would not run, for I have never yet shot a deer or turkey when I had meat in my camp.

While I have found my pleasure in these hunting expeditions there has always been something lacking to make my pleasure complete. I would return from a hunting or fishing trip and tell my friends of the unusual happenings; of how I stalked a deer, or caught a fish of huge size, only to have some of them call me the world's biggest liar. In fact I had been called a liar so much that I almost began to believe I was one. I always carried a kodak with me, but could not get much pleasure out of taking a picture, for after it was developed and printed you just put it away in an album like putting a man in a nice casket after death—never to see another movement again.

For several years I have hunted the Dalli Sheep in Alaska and up there have seen things that no one would believe in the way of sheep and goats. For example, cornering eighteen goats on a point where they couldn't escape. Then to walk right in among these wild creatures. Or, of watching five Rams battle on a rocky hillside.

It was after seeing that battle of the Rams a year ago last Fall that I decided that I would get a movie camera and take it with me on all future trips so I could actually show my friends these things. So, when I arrived in Los Angeles last May I walked into a photo supply store and bought a movie camera, telephoto lens, projector and a whole load of film. I rented all the film I could find dealing with the Sheep hunting, but could find none in which there was a closeup of a huge Ram. Then and there I decided that my object in life was to get such a closeup, so my brother John and I started for Alaska again. And it did seem peculiar to me to be going hunting with a movie camera, but I was getting a thrill such as I never had before.

For days we plodded through the wilderness of Alaska, always getting closer and closer to the back country where the huge glaciers are booming and cracking; where the rocky mountain sides are dotted here and there with the beautiful Dalli Sheep. And then came a morning when we finally reached our goal—a spot where only a few men have stepped foot. There we pitched camp and prepared for the hunt. After a hasty breakfast we were ready to start for the hunt. Just then John spotted a huge brown bear. We approached to within thirty yards of him, John with a rifle, I with my camera. He stuck his head over some bushes and I started the camera. He spotted us and started to run. John shot, and Mr. Bear rolled down the hillside, bringing up in some alders down below.

We needed fresh meat badly, and not caring so much for bear meat, we happily found a young, fat goat. Fresh goat steaks were soon ours, and were they good? It started to rain, and for three days kept it up. But we were dry and well fed, thanks to the goat.

Then came the start of the hunt for the Dalli Ram. We kept to the bottom of a canyon, watching the pinnacle for sheep. Soon we spotted a ewe with two lambs. The ewe climbed onto a big boulder and stared down at us with the

(Continued on page 37)

On the trail amid the glaciers

Two of the elusive Dalli Sheep

The Difference

BETWEEN STARS THAT SHINE *and* STARS *that* MERELY TWINKLE

VICTOR

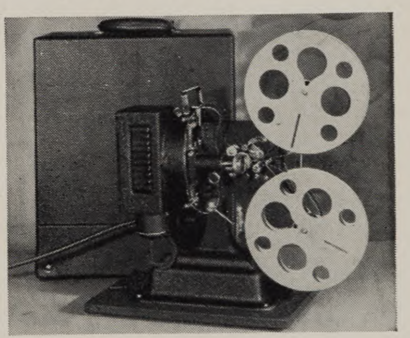
Perfect pictures now and twenty years from now . . . that's the goal! Otherwise why bother at all?

Victor 16 mm. equipments are designed and constructed to assure far finer than average results . . . clear, sharp exposures with all the quality of studio productions, and projection that rivals the brilliancy and professional excellence of the finest theatrical showings. Besides that, there are the many conveniences and refinements that only Victor provides . . . such, for instance, as positive film protection which insure that the priceless shots made today will still be good for showing twenty years from now.

Don't envy the chap whose movies "shine out" from the rest—Own a VICTOR yourself! If your dealer hasn't a VICTOR stock, have him write.

Manufactured by VICTOR ANIMATOGRAPH CORPORATION
Davenport, Iowa

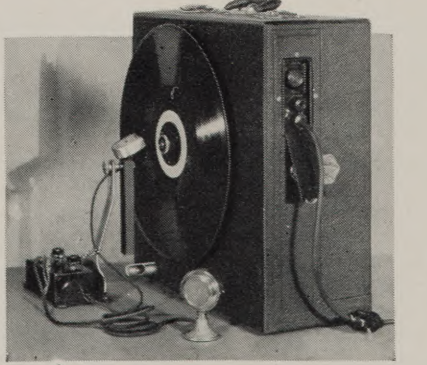
Distributed by NATIONAL THEATRE SUPPLY COMPANY
Branches in All Principal Cities



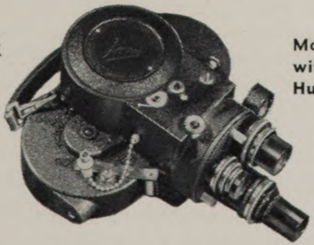
Model 7 Projector with 300 Watt Lamp, all accessories, and Carrying Case $175

• •

Animatophone complete with Carrying Case and with 5 Tube Cine Speaker $500



Ask your DEALER to Demonstrate A VICTOR



Model 5 Camera with 1" F 2.9 Hugo Meyer Lens $220

RCA Presents 16-mm. Sound-on-Film Projector

ANNOUNCED as the culmination of four years of intensive development and heralded as the most advanced step in the field of sound reproduction since the motion picture screen became articulate, RCA Photophone, Inc. and the RCA Victor Company, at a preview and demonstration before an invited audience on January 21st, introduced a new all AC operated 16 mm. sound-on-film motion picture projector.

Manufactured by the RCA Victor Company at its plant in Camden, N. J., and referred to as the RCA Photophone Junior Portable to distinguish it from the 35 mm. Senior Portable which has been on the market for more than a year, the new machine gave rather an amazing performance when its own dimensions and the dimensions of the slender thread of film used are taken into consideration. With the projector placed about thirty feet distant from the screen and the loud-speaker behind the screen, a picture about 4 feet by 6 feet in dimensions and sound of excellent quality were reproduced with remarkable fidelity. Industrial leaders, educators, ministers and others who previously had been privileged to witness the demonstration of the new apparatus, are said to have been enthused over its possibilities in their respective fields of endeavor.

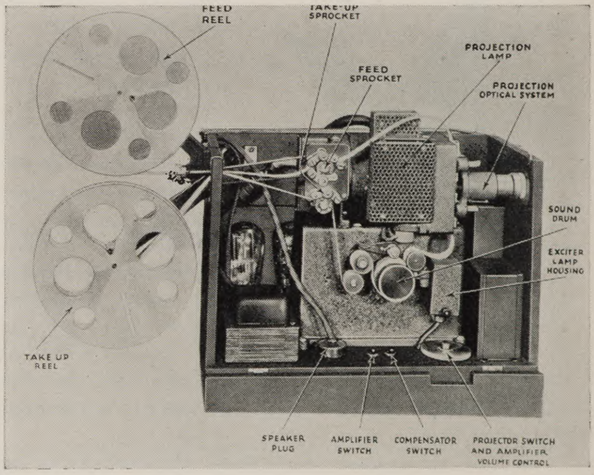
The RCA Photophone Junior Portable equipment consists of a projector-amplifier unit and a small loudspeaker unit. The entire equipment is operated from any 110 volt, 50 or 60 cycle AC lighting circuit.

The projector-amplifier unit is 14½ inches long, 13¼ inches high, 8¼ inches wide and weighs 43 pounds. The equipment is not removed from its case during operation, the interior mechanism being readily accessible for such adjustments of the projector, replacement of radiotrons, lamps and photocells as may be required. During the actual presentation of sound pictures, the case is closed to reduce to a minimum extraneous noise caused by the operation of the projector mechanism. The projector is equipped with an optical system which projects pictures varying in size from 22 inches wide to 16 inches high at a distance of from 10 feet; to 67 inches wide by 50 inches high at a distance of 30 feet. The picture size recommended for good illumination is 52 inches wide by 39 inches high. This size is obtained at a projection distance of 23 feet.

The exciter lamp is a 4 volt, .75 ampere, Mazda lamp and the radiotrons used in the amplifier are one UX-868 photocell, one UY-224, one UY-227, three UX-345s, and one UX-280. All power for the operation of the loudspeaker is obtained from the projection-amplifier unit.

The loudspeaker is mounted in an individual carrying case which is 19 inches long, 16 inches high, 9½ inches wide and weighing 21 pounds exclusive of film cases, film reels and film. Space is provided in the case for the storage of eight film cans for 400 foot film reels. This loudspeaker is of the flat baffle type with the dynamic speaker unit mounted behind the screened opening in the front of its carrying case. A sufficient volume of sound is available to meet the requirements of rooms having a cubic content up to 10,000 feet. The 16 mm. film employed for the reproduction of sound pictures by the Junior Portable contains sprocket holes on one side only instead of both sides as are required by the 35 mm. film. When threaded into the projector, the sprocket holes are on the right side of the film. The sound track, barely discernible to normal sight, is at the left.

"We believe our engineers have produced a sound-on-film motion picture projector that will be heartily welcomed in the educational, industrial and religious field," said Vice-President and General Sales Manager, E. O. Heyl. "Already several large manufacturers of internationally advertised products and a number of educators and others who have been privileged to inspect and witness demonstrations of the new equipment, have manifested unusual interest in it and its possibilities. Leaders in these fields of endeavor, recognizing the value of the sound motion picture for the dissemination of information, have long awaited the introduction of a portable device of proportions comparable to the RCA Photophone Junior Portable and for that reason we announce this development of our engineering organization with considerable pride. The combined weight of both the projector-amplifier unit and the loudspeaker unit makes the apparatus easily transportable. The mechanism of both units being easily accessible, each can be made ready for operation within a very few minutes.



The new RCA 16 mm. Sound-on-Film Projector

"As has been our policy in connection with the distribution of the RCA Photophone 35 mm. Senior Portable, the Junior Portable will be marketed through dealer distribution. The reduction of existing 35 mm. subjects to 16 mm. prints, along with the recording of sound upon 16 mm. negative will make available a tremendous library. Millions of feet of 35 mm. silent pictures will be reduced to 16 mm. subjects within the next few years. Among these are thousands of subjects of particular usefulness to schools, colleges, clubs and churches.

"The introduction of the RCA Photophone Junior Portable makes possible the presentation of sound pictures in places that would be inaccessible to 35 mm. apparatus and it is my opinion that before the arrival of 1933, these new machines will be found in all parts of the world."

Mr. Heyl further announced that factory production of the Junior Portable had begun and that deliveries to dealers will begin within the next thirty days or so.

Hunting Dalli Sheep

(Continued from page 34)

curiosity of a cat. Just then we spotted fifteen more. sneaked up on them and got a fine picture.

The author in the land of the Dalli Sheep

At the head of the canyon we found huge Ram tracks, and we started to climb. A few hundred feet up the mountain side I crawled ahead and peeped over a little bench. There ahead was a huge Ram lying down. I raised the camera and got a few feet of him and then motioned for John to come up as it was a big ram with a splendid spread of horns, a really wonderful trophy. When John arrived and we looked again there were two of them. Laying my camera aside for a moment to put a shell in my gun, imagine my chagrin when the camera started sliding down the snow. I grabbed for it and the rams heard me and started. John fired and got his ram. It was over before I could retrieve my camera. The ram's horns measured 15½ by 34 inches curl by 22 inches wide at the base.

Next morning we started out again. We were scaling the pinnacles when we ran right into a monster ram. He was lying on the lea side of the wind and we walked right onto him before he saw us. In his excitement he dashed over a steep bank. We looked over and there he was cornered in a pocket, impossible for him to get out, except by taking a sheer drop over a cliff of about three hundred feet. I pulled up the camera and we both got into action. He dashed straight at us and came to within five feet of us before he turned back. I certainly took pictures of that boy as he posed in all angles, never more than twelve feet from me. And then my film in the camera ran out. I pulled out another roll, but I was so excited that I never did get the roll threaded, no sir! So I dropped the camera and shot him. A beautiful head. Horns with base of 14½ inches and curl 37 inches by 16 wide. I was happy, for I had my ram and, more important, I had that closeup that I went after.

Two days later we were out of the snow and on the way back. Going through the heavy timber we came upon a baby moose about two or three weeks old. I started to take pictures, and he did not seem to mind, letting me get to within five feet of him for closeups.

And now I am back in California again, but am preparing for another trip to Alaska with the camera. Never will I be without that camera again. While writing this I stopped and put my film on the projector and lived the trip over again. and I laughed as I realized that those friends of mine now lose the pleasure of calling me a liar, for I just take them into the house and let them see for themselves. I feel that, after hunting half my life I have to start all over again, for a hunt without your moving picture camera is like living in the days when we used coal oil lamps.

Camera With Auto Now

THE MOTION PICTURE camera as an automobile accessory made its debut at the New York Automobile Show—with something of a flourish. A gold-plated Cine-Kodak, with a case built into the back of the front seat, was part of the equipment of the Duesenberg Special on display.

The movie camera is a late model compact amateur instrument covered with the light tan leather in which the Duesenberg is upholstered, and with all exposed metal parts gold plated.

The purchaser of the Duesenberg Special will always be able to "Cine-Kodak as you go," for his movie camera will be ready at hand when he is motoring. The built-in case contains room also for several extra rolls of film. Many of the scenes most desirable for personal movies are encountered in motoring.

The gold-plated Cine-Kodak contains enough "narrow gauge" film, at one loading, to make movies that will run for four minutes on the screen. It has finders that permit it to be sighted either at eye level like a rifle or at waist level, dependent on convenience. The lens is a "fast" one, and a push button operating the camera at half speed goes still further in permitting motion pictures to be made when light is not abundant.

◆

Camera Robots

MOTION picture cameras have become robot actors in the fullest sense of the word.

At Paramount studios is a department that bears mute evidence to the animation of the motion picture camera. Here are kept the dozens of different-sized, trailer-like perambulators on which cameras are mounted.

Several miles of wooden tracks on which these "dollies" ride are stored there for use. A camera crane which consists of a camera platform at the end of a thirty-foot steel boom mounted on a universal joint is another piece of equipment.

The "dollies" are of many sizes and shapes, from two feet wide for going through doors to regulation automobile gauge. Some of them are three-wheeled and others four; some are electrically propelled and others are pushed by men. Several of them have telescoping tripods by which the camera can be raised or lowered while moving.

◆

S.M.P.E. to Washington

THE SOCIETY of Motion Picture Engineers will hold its Spring Meeting in Washington, D. C., May 9-12, according to an announcement made by the Board of Governors of the Society. Washington was selected by the Board of Governors following a majority vote for this city by the membership.

W. C. Kunzmann, Chairman of the Convention Committee, and O. M. Glunt, Chairman of the Papers Committee, will prepare the program of arrangements for the meeting which will be held during the height of the Washington Bi-Centennial activities.

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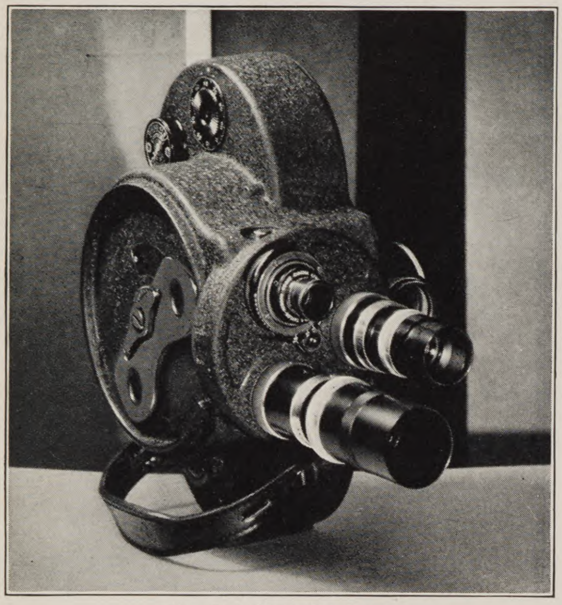
ANNOUNCING . . . TWO EQUIPMENT PRIZES

Offered by the **BELL & HOWELL CO.** to Winners in the



The FILMO 70 DA Camera

AMERICAN CINEMATOGRAPHER

$1000.00

Amateur Movie Contest

The AMERICAN CINEMATOGRAPHER takes pleasure in announcing to all Amateurs that the BELL & HOWELL COMPANY offers two attractive prizes to be awarded to the winners of the Amateur Movie Making Contest now being conducted by this magazine, and which is fully explained on the opposite page.

Bell & Howell's first prize will be the choice of a FILMO 70 DA Camera with the standard 1" F3.5 focusing mount lens, complete with carrying case, and which sells for $280.00, or a FILMO Model JL Projector, with carrying case, which sells for $298.00. The B. & H. second prize is a choice of any Standard Cooke Telephoto Lenses, ranging in price from $60.00 to $95.00.

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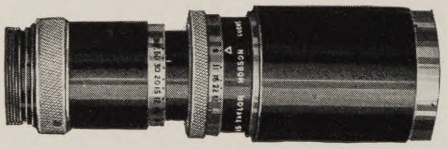

The Cooke Telephoto Lens

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These Bell & Howell prizes are to be awarded to those winners of the cash prizes **who have made their pictures with a FILMO camera.** For example, if the winner of the $500.00 first prize given by the AMERICAN CINEMATOGRAPHER made his picture with a FILMO camera he has his choice of either the FILMO 70 DA camera or the FILMO Model JL Projector in addition to the cash prize. If the second cash prize winner is the highest one with a FILMO camera, he gets the B. & H. first award. In brief, the B. & H. awards go to the first and second highest, respectively, who win AMERICAN CINEMATOGRAPHER prize with film photographed with a FILMO camera.

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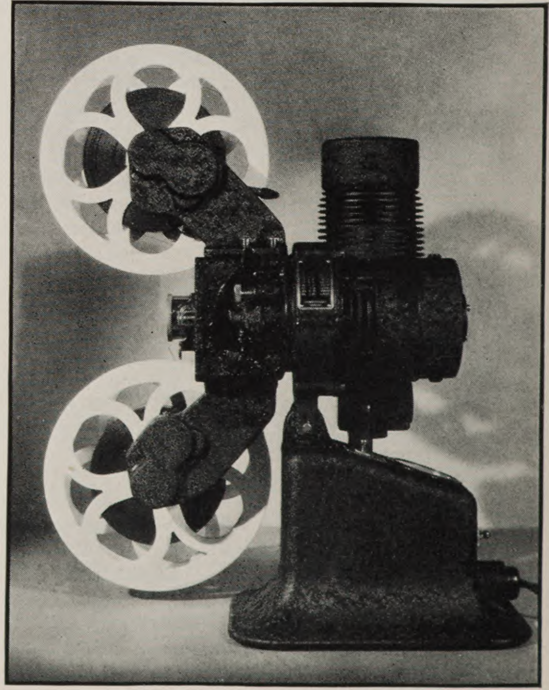
THE CASH PRIZES ARE

First Prize, $500.00 **Second Prize, $250.00**
Third Prize, $150.00 **Fourth Prize, $100.00**



The FILMO Model JL Projector

YOUR OPPORTUNITY!

The AMERICAN CINEMATOGRAPHER now offers the greatest opportunity ever given the AMATEUR MOVIE MAKER to win recognition and cash. ¶ A total of **$1,000.00** in **CASH** prizes is offered by this magazine to the winners of the Amateur Movie Making Contest announced in the October issue. This contest is sponsored by the American Society of Cinematographers, an organization composed of the world's leading professional motion picture cameramen. If you want to win recognition, as well as cash, read the rules below and send your entry :: :: :: :: :: ::

COMPLETE RULES OF THE AMATEUR MOVIE MAKING CONTEST

The American Cinematographer will present a prize of $500.00 for what its judges consider the best 16 millimeter picture submitted in this contest. $250.00 will be given as second prize; $150.00 as third prize; and $100.00 as fourth prize, a total of $1000.00 in prizes.

This contest is open ONLY to AMATEURS. No professional cinematographer will be eligible to compete. It is a contest solely for the amateur, either the individual or the club.

The contest officially opens November 1, 1931. The contest ends at midnight of October 31, 1932. All pictures must be entered by the closing date or they will not be considered. Entries mailed or expressed bearing the date of sending will be accepted if they reach THE AMERICAN CINEMATOGRAPHER office after October 31, 1932, providing the date shows they were sent before midnight of October 31, 1932.

Pictures submitted in this contest will be judged upon photography, composition, direction, acting, cutting and entertainment value. And only silent pictures will be eligible for the contest. The judges, whose names will be announced later, will include outstanding and widely known Cameramen, Directors, Actors, Writers and a group of nationally known Motion Picture critics from some of the best known newspapers in America.

The decision of the judges will be absolutely final, and there can be no appeal from their decision. Announcement of the awards will be made as soon after the close of the contest as possible and checks will be mailed the winners.

Pictures may be submitted either by individual amateur movie makers, or they may be submitted by Amateur Movie Clubs. However, they MUST BE photographed on 16 millimeter or 9 millimeter film. Accompanying each entry must be a sworn statement to the effect that no professional cinematographer assisted in the making of the picture. No pictures will be accepted which were photographed on 35 millimeter film and then reduced to 16 millimeter.

This contest is open to amateurs and amateur clubs anywhere in the world, with the following conditions.

Only Bona Fide Subscribers to the American Cinematographer Can Compete

If you are a paid-up subscriber to THE AMERICAN CINEMATOGRAPHER you are eligible to enter the contest. If you are not a subscriber just send in your check for a year's subscription and you are eligible.

In the case of Amateur Clubs the following rules apply:

If a club with a membership of 20 or less wishes to enter a picture, the club will have to have a minimum of 5 subscribers among its members. Any club with more than 20 members will have to have a minimum of 10 subscribers among its members. For any further information you may desire, write the Editor of the American Cinematographer, 1222 Guaranty Building, Hollywood, Calif., or consult your photographic supply dealer.

IF YOU WISH TO ENTER THIS CONTEST AND ARE NOT A SUBSCRIBER, MAIL COUPON TODAY

American Cinematographer, 1222 Guaranty Bldg., Hollywood, Calif.

Enclosed please find Check, or Money Order, for $3.00 ($4.00 foreign) for which kindly enter my subscription to THE AMERICAN CINEMATOGRAPHER for one year:

Name..

Address..

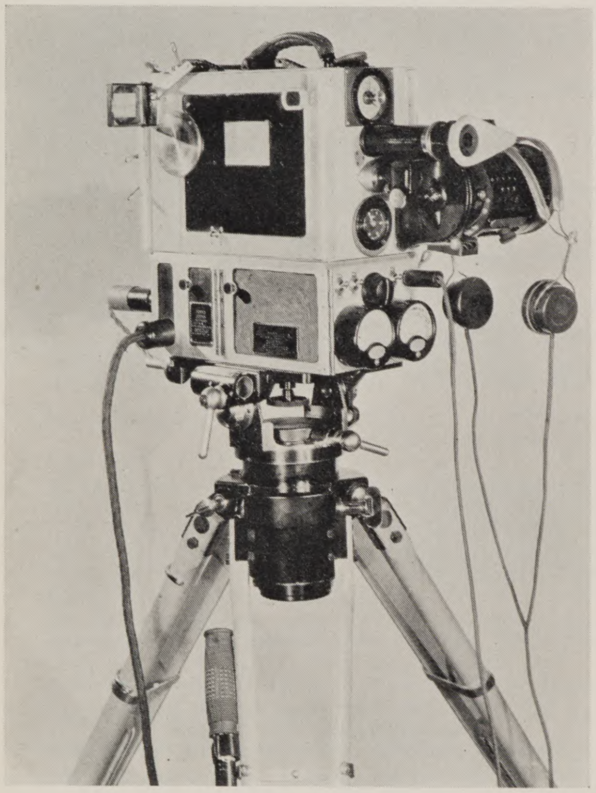
....

It is understood that this subscription makes me eligible to enter your $1000.00 Amateur Movie Contest.

A New Portable Recording System

OUTSTANDING in the sound field developments this month is the announcement by the Optix Laboratories, Ltd., of a new portable recording system using a special Debrie "Parvo" camera built in the Debrie factory in France especially for the new sound recorder.

Bearings in this camera are all oversize; gears and sprockets are ground to very close tolerances and celeron and steel helical gears are used. A new "one hole" oiling system is employed. Provision of a quick change mount enables the mounting of large fast lenses. One focusing bar scale suffices for lenses of any focal length. All lens settings may be read from the rear of the camera. Provision is made for mattes in two places. Pressure rollers in gate. A precision speed indicator is mounted in the rear of the camera and is driven by a shaft mounting two mechanical universal joints. Standard Debrie 400 foot magazines are used. The new focusing tube is self closing. A two inch F.2.7 Zeiss lens in Debrie Universal mount, two magazines, a folding rewinder and crank are supplied with the equipment. Shutter openings are adjusted from the front of the camera and from the outside. This special camera may be used as an ordinary silent camera by removing the bolt and the stripper and placing the plate supplied in the film slit at the bottom of the camera. The camera is made for sound recording and special insulation is used throughout. The 110 volt D. C. motor runs from "B" Batteries. An ingenious resistor wound around the motor frame allows the operator to control the speed and set the sensitive tachometer at exactly 24 pictures per second. The switch, release and reverse mechanism is integral with the motor. The complete unit may be removed by releasing one thumb screw.



The new portable

The system of recording used in this new equipment was designed by Len H. Roos, A.S.C., F.R.P.S. A new quartz slit is employed together with a new film movement and modulating system. The variable density system using a new recording light is employed.

The microphone is a special high gain unit made especially for the system. The unit is very compact allowing it to be placed close to the subject without being picked up by the camera.

A licensed Loftin-White high gain amplifier is used together with a new modulator of compact design. The complete amplifier, modulator and recording compartment are housed in an aluminum alloy casting directly under the camera. The box is 10½ inches long, 6 inches wide and 4½ inches high and contains all the amplifier components, control switches and meters.

◆

Concerning Cinematography

(Continued from page 23)

tions is the obvious staginess of the mountain sequence immediately before the climax of the film, and this is the fault of the scenic department rather than of either director or cinematographer.

Both dramatically and cinematographically, the picture should end with the destruction of the monster and the death of its creator: the so-called happy ending that was tacked on after this should certainly be eliminated.

THE RAINBOW TRAIL

◆ Another noteworthy picture—though of a wholly different genre—is "The Rainbow Trail," photographed by Daniel B. Clark, A.S.C., who has carved out for himself an unique niche as the premier photographer of outdoor dramas. His exteriors are models of their kind, not alone in composition and pictorial quality, but in their avoidance of overcorrection. Much of the action was photographed in and around the Grand Canyon, and in these sequences Clark has obtained some of the finest shots of this location yet screened. His interior lightings are likewise unusually interesting, for he has used highly dramatic, low-key effects seldom seen in Western pictures. They are highly appropriate here, for the story is far less the conventional "Western" than it is a gangster plot played against a western background.

Good as it is, however, Clark's photography would have been greatly improved had the print been made on tinted-base positive stock. Almost any type of picture will be benefited by the judicious use of colored stock: but outdoor films demand it. There is no aid to either dramatic or pictorial effect that is nearly so potent as this. Most cinematographers, directors, and executives recognize this fact, I believe, the only dissentients are the sound engineers. So, even though there are available several varieties of tinted-base positive which were formulated specifically for sound-films, lamentably few films use them. Probably it can be proven that even these improved tints interfere somewhat with the sound, but I doubt if it can be proven that they interfere sufficiently to be perceptible to anyone but a trained sound engineer. At any rate, the visual gain accruing from the intelligent use of tinted stock is more than sufficient to offset any slight aural loss that might occur. I have personally seen and heard many tinted-base trailers in which the sound quality was quite equal to that of the release-prints of the same pictures, made on plain or argent stock. The pictorial and dramatic values given the scenes by the tinted stock were noticeably superior to the values of the same scenes when printed on uncolored film. It is high time that the sound experts realized that at the box-office, visual perfection is more important than aural perfection. Modern recording and reproduction technique and equipment are very nearly perfect; perfect enough, certainly to allow us the use of so important a pictorial and dramatic adjunct as tinted stock. If any sound man doubt this, let him consider that "In Old Arizona," one of the first and most successful talking films, was largely printed on tinted-base stock, which lent a world of

(Continued on page 44)

Bell & Howell Co. Issues Catalog of 16 mm. Sound Pictures

A COMPREHENSIVE catalog of 16 mm. sound pictures available through the Filmo Library has just been issued by the Library Division of the Bell & Howell Co. Approximately 500 subjects are listed.

Many persons will be surprised to learn that so large a number of such sound films are available. The fact that producers have been so prompt in putting so great a volume of these sound releases on the market in the comparatively short time since 16 mm. talkie reproducing equipment was first perfected is an unquestionable indication of the great importance they are attributing to the 16 mm. sound field. Like everyone else who is observant and alert with regard to such matters, they evidently see sound as an increasingly important factor in 16 mm. pictures.

The subjects listed in the catalog cover a wide range. Many are strictly of an entertainment nature, while others are educational and informative. The listing will, therefore, be of interest not only to the users of sound equipment in the home, but to many others also, including educators everywhere. Many business concerns will find here excellent material to serve as a sort of appetizer in conjunction with their industrial sound picture presentations.

All subjects listed are sound on disc. A copy of the catalog, consisting of 33 mimeographed pages bound in an attractive cover, will be sent on request to anyone who sends eight cents in stamps to defray postage charges. Requests should be addressed to Library Division, Bell & Howell Co., 1801 Larchmont Ave., Chicago.

◆

Dallmeyer Optical-Bench Titling Outfit

J. H. DALLMEYER of London has brought out a practical titling device for the use of the amateur movie maker, and one which should become quite popular with the 16 millimeter users. It is an instrument of real precision, and the user should be able to secure excellent results. The titling device follows the lines of the optical bench, being made of wood instead of steel. The base is about four feet long. On one end the title-board is mounted; on the other the camera. The camera is fastened onto a pedestal which allows for vertical movement and lateral adjustment. The camera can be slid along the board to any spot desired. To illuminate the title a hollow, rectangular frame of metal is placed midway between the camera and title. In this trough are placed eight 60 watt electric bulbs. All in all, it is practical and many things in the way of title making can be done with it.

CARL ZEISS LENSES

for

Cinematographers

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Biotars F/1.4

Cinematographers throughout the world are using Zeiss Lenses because of the assurance of perfect definition and brilliancy.

Whether for indoor or outdoor shots . . . with simple or elaborate settings . . . your Zeiss Lenses will give accurate and vivid results.

No camera can be better than its lens. And Zeiss Lenses are as perfect as human hands can make them.

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For over thirty-four years amateur and professional photographers have read PHOTO-ERA MAGAZINE with profit and pleasure. Send for specimen copy, 25 cents. Subscription price, in United States, $2.50; Canada, $3.09, foreign, $3.25.

Photo-Era Magazine

WOLFEBORO, NEW HAMPSHIRE, U. S. A.

Pictorialists

ATTENTION!

Three cash prizes will be given for the three best photographs appearing in the pictorial section of this magazine during the twelve issues from October, 1931, to and including September, 1932

First Prize: $100.00 Second Prize: $50.00
Third Prize: $25.00

This competition is open to ANYONE, amateur or professional

The only requirement is that you must be a bona fide subscriber to the American Cinematographer. If you are not a subscriber, send your subscription and pictorial entry today to

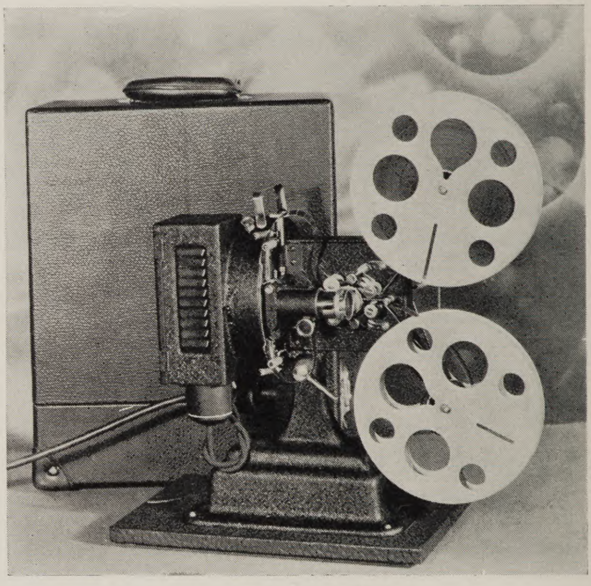
The American Cinematographer
1220 Guaranty Bldg., Hollywood, Calif
Subscription price, $3.00 a year. Foreign, $4.00.

Victor Offers Complete Series of New Model 7 Projectors

VICTOR Animatograph Corporation, Davenport, Iowa, announces that the new model 7 Victor Cine Projector is now available in a complete series which embraces the following equipments:

Model 7 Regular, which is equipped with 300 Watt "No Resistance" Lamp (100-120 Volt).

Model 7G with 50-60 Cycle A. C. Transformer built into base to permit use of high intensity 250 Watt-20V. Lamp. Current may be diverted from Transformer to permit use of 200 and 300 Watt lamps of 100-120 Volts on either Direct or Alternating Current.



The new Victor projector

Model 7R with No. 11 Victor variable resistance Lamp Rheostat mounted with swivel post on projector base. This Model accommodates (on either Alternating or Direct Current) the 250 W.-50V., 375 W.-75V. and 165 W.-30V. high intensity lamps, as well as the regular 100-120 Volt-200 Watt and 300 Watt lamps. It is said to have the widest range of lamp interchangeability of any 16 mm. projector on the market.

Outstanding among the new features claimed for the Model 7 Series of Victor Cine-Projectors is an improved optical system which affords much better illumination, regardless of the type of lamp used. The Model 7 Regular which employs the new 300 Watt lamp is said to set a new standard of illumination for 16 mm. projectors that are not equipped with some form of lamp resistance.

A wider speed range and more quiet operation are other improvements.

The Model 7 Regular and the Model 7G are equipped with the attractive rectangular base which previously was supplied only on the Model 3G. The Model 7R has the pedestal base to permit swinging the rheostat in under the projector body when placing the machine in its carrying case.

The well known exclusive Victor features such as the adjustable shutter which is a constant safeguard against "jumpy" pictures, the automatic film trip which affords protection against film damage and other equally important refinements are all embodied in the Model 7 Series.

Wholesale distribution of Victor Projectors is through the Wholesale Division of National Theatre Supply Company which has factory service sales branches in all principal cities of the U. S. A.

Universal Beginning Busiest Portion of Production Season

ALTHOUGH a bulk of the feature films to be released on the 1931-32 schedule have been completed, Universal studios plan to start the busiest portion of the current production season this month and Carl Laemmle, Jr., general manager, is beginning to establish the nucleus of the next year's program, according to official studio announcement.

Carl Laemmle, veteran president of Universal, declares there will be no "shut down" at Universal City at any time this year and that while the budget for forthcoming production has not been completed that there is a good probability that more money will go toward actual production this year, than last.

"There will be no stinting in current Universal production. The past year has forced all producers to practice rigid economy but this action has given us more dollars to put into pictures —into settings, into direction and casts, into preparation. There is no market for the million dollar film today but Universal will arrange its budgets to supply everything necessary to make consistently better pictures.

"Universal is in the midst of its greatest year of achievement," says Mr. Laemmle. "We have produced some of the outstanding 'hit' films of the year and shown improvement in each succeeding picture. After such a high standard has been established we will not permit anything to hamper even greater advancement, and we look to 1932 to be a real happy and prosperous new year."

Among the stories slated for early production at Universal City are Fannie Hurst's "Back Street," adapted by Gladys Lehman and to be directed by John M. Stahl; "Brown of Culver," an original story by George Greene and E. A. Patterson; "Night Club" (tentative title) by Pincus J. Wolfson and Allen Rivkin, to be directed by Hobart Henley with Mae Clarke, Boris Karloff, Russell Hopton; "Radio Patrol" (by the authors of 'Night Club') to be directed by Edward Cahn; "The Old Dark House" by J. P. Priestley and directed by James Whale with Boris Karloff featured; "The Invisible Man" by H. G. Wells; "Laughing Boy" by Oliver La Farge and starring Lew Ayres; "Cohens and Kellys in Hollywood" by Howard J. Green, directed by John Francis Dillon with George Sidney and Charlie Murray co-starred; "Marriage Interlude" by Luigi Pirandello with screen play by Winifred Dunn.

◆

The Shutter

(Continued from page 10)

Cameramen have welcomed the perfection of this method, but it seems to be a fact that mechanical dissolves, when predetermined upon, give better effects under the immediate control of the cameraman, which is especially the case with lap dissolves, the character of which certainly suffers under the chemical process, by the necessary use of dupe negatives and the vicissitudes of laboratory work, not under direct control of the cameraman.

This short study of shutter characteristics of only the camera shutter, indicates again the necessity of well chosen compromises between the interrelating characteristics and final effects of persistance of vision, exposure time, relationship of relative value of "open" and "closed" shutter, lens and emulsion speed, illumination and filter values, etc. and it is again up to the cinematographer, his experience, knowledge and ability of often instantanous best decision to make the best use of this apparently so simple a device as the shutter.

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Concerning Cinematography

(Continued from page 40)

charm and warmth to the fine camera work of Arthur Edeson, A.S.C., while detracting little, if anything, from the sound, even though neither sound technique nor equipment was nearly so perfect as today.

PRIVATE LIVES

◆ Polished comedy—perfectly matched by Ray Binger's deft cinematography. Both dramatically and physically this comedy moves along at a smart clip, with which the camera-work never for a moment interferes. There is no reason for camera-movements to accelerate the tempo of this picture, and director and cinematographer have wisely refrained from employing more than the few that are cinematically necessary.

Technically-minded observers might glean an idea of the tribulations of a cinematographer's private life from this picture, for in the middle of the picture the star was somehow allowed to change her hairdress and—putting a new burden upon the cameraman, for the changes had to be compensated by changes in the lighting. The earlier sets likewise must have been troublesome, for they afford insufficient contrast to Miss Shearer's costumes. The later sets were much more photogenic, and Binger has taken full advantage of all their possibilities. The process work is excellent, though there is one miniature which could stand much improvement. The print is quite up to M-G-M's fine standard.

THIS RECKLESS AGE

◆ This film is a most unpretentious program opus, but it is none the less a notable achievement, for, despite the fact that practically all of the action takes place on one very ordinary set, the audience is never conscious of the fact. The credit for this must be divided between Henry Sharp, A.S.C., Director Frank Tuttle, and a cast bristling with excellent troupers. Sharp, to my mind, deserves the lion's share, for he has handled the very ordinary subject-matter given him in so deft a manner that there is no trace of either monotony or mechanics.

MANHATTAN PARADE

◆ Similarly, the combination of the first really good Technicolor print seen in years and Dev Jennings' fine camerawork make "Manhattan Parade" a much more important film than it would otherwise be. If all color camerawork had been as good as this, and all Technicolor release-printing as well-defined and uniform, the later color-craze would never have subsided. The picture is entirely a triumph of the technicians.

A PREDICTION

◆ I have recently been privileged to see part of a German-made film, "Birge in Flammen," which Carl Laemmle purchased before its completion and is preparing to complete at Universal City. Even in its fragmentary form, it is a superb cinematographic achievement. The camera work is distinctive and the direction enthralling. Despite the dialogue—of which there is fortunately little—"Mountains In Flame" is a true motion picture. Why is it, I wonder, that most American directors seem to have forgotten, since sound came, how to make the real motion pictures that they formerly excelled in, while European directors—particularly German ones—have not only remembered how to do so, but caught the knack of using dialogue without interrupting the flow of cinematic motion?

At any rate, if "Mountains In Flame" is finished as it has been begun, it will be a superb film. And the cinematographer who is assigned the task of completing it will have to rise to spectacular heights if he matches the magnificent photography of the German-made portion of the film. All success to him, and to Carl Laemmle for his enterprise in securing such a masterpiece!

Photographing Vocal Cords

(Continued from page 11)

With a straight quartz rod 8 mm. in diameter in contact with the bulb of a 6 volt, 18 ampere ribbon filament lamp operated at 2900 degrees K., we were able to obtain about 250 visual foot candles on a plane about 90 mm. from the rod end. It was necessary to bend the rod in two places in order to conduct the light from the source to the laryngeal cavity. The first bend was necessary in order to make the rod run parallel to the tube where the two entered the mouth. The position of the camera relative to the end of the instrument makes it impossible to place the lamphouse in a more advantageous position. The first bend amounted to a total deflection of 55 degrees. Fortunately it was possible to make this bend with a circular arc such that the critical angle for quartz was always exceeded and there was no light loss at the bend. The other angle which turns the light downward at the back of the throat was necessarily so sharp a bend that some of the reflected rays were incident at an angle less than the critical angle. A light loss of about 70 per cent was the result. Silvering of this elbow did not improve the efficiency of the rod.

In order to obtain sufficient intensity for motion photography of the cords it was necessary to overload* the lamp for the short period of taking.

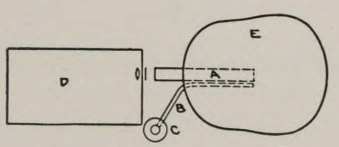

Fig. 4

Figure 4 is a diagrammatic top view of the camera, D; Fonofaryngoskop, A; quartz rod, B; light source, C; and subject's head, E.

Undoubtedly much more can be learned from these preliminary pictures through frame to frame inspection than is possible by projection at 16 frames per second. In a relatively short time of actual picture taking we have thus far gathered results which will furnish material for months of painstaking research before the information to be gleaned will be exhausted.

Teachers of speech or voice and of the deaf, surgeons and physicians, phoneticians, and other speech and voice investigators may be benefited by the results obtained from motion pictures of the laryngeal cavity. To mention a thing of perhaps small importance: The doctor who instructs his patient with the time-honored phrase, "Now open your mouth and say 'Ah,' " may be interested to know that this procedure results in the complete closure of the laryngeal cavity, whereas i ("ee" in peep) opens it wide.

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*NOTE: An increase of one ampere in the current consumption of this lamp is approximately equivalent to a doubling of the photographic intensity. The filament can be overloaded to 22 amperes for short times without burning out.

[1] Tuttle, C., and Morrison, C. A.: Some Preliminary Experiments in Medical Photography, Communication No. 375, **Sci. Abr. Pub., 13:**114, 1929.

◆

M.P.T.O. of Wisconsin Names Committee Heads

M. P.T.O. OF WISCONSIN committee chairmen for the current year have been announced by Fred S. Meyer, president of the organization. Martin Thomas, Braumart theatre, Iron Mountain, Mich., is chairman of the finance committee; A. C. Berkholtz, Mermac, West Bend, membership; George Fischer, Milwaukee, affairs; A. C. Gutenberg, Grand, Milwaukee, advisory and A. D. Kvool, Fox-Midwesco, legislative.

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Scientists Claim A New Color Process

C. A. PIERARD, bacteriologist of the Wellington, New Zealand, public hospital, F. S. Cooze and O. A. Townsend, cinematographers, claim they have developed after five years of experimenting, a new, better and cheaper process of photographing in color. The cost of the process they say is but little more than that for black and white, both negatives and positives being made on ordinary film stock, single coated. Scenes are photographed in the ordinary way, the colors being obtained in the developing of the negative. Sound track, it is said, is not affected by the process. A public company to exploit the invention has been formed under the name of Tru-Color Film, Ltd.

◆

Automatic Light Shade For Printing Machine

AN AUTOMATIC light shade for use with printing machines in film laboratories has been placed on the market by the Oehler Machine Co., Inc., of Astoria, L. I., manufacturers of equipment for film laboratories.

The device, which is novel in construction, is said to incorporate a means of controlling the exposure intensity of the printing lamp.

◆

An Apertureless Optical System

(Continued from page 14)

The most unique and important of all advantages is the fact that the light beam is perfectly uniform in intensity throughout its length. As will be evident from Fig. 3, this result is achieved because the horizontal image of the filament, which is composed of the coil elements, is focused on the objective O and consequently cannot possibly be in focus on the film. Furthermore, each coil element is drawn out by the positive lens P and is focused by the objective lens O upon the film, making a complete light beam in itself. It is the sum total of all such elements added together on the same line that makes the fine, clear, brilliant image obtained.

This uniformity of light across the image makes a finer reproduction especially in the case of variable width recording, where variations in brilliance along the slit cause volume or harmonic distortions for which it is impossible to compensate.

Printed through courtesy of the S.M.P.E. Journal.

◆

Laboratory Department

(Continued from page 28)

concentrically located with respect to the one driving a second disc at a lower angular velocity. A slot of relatively small angular dimensions in the larger and slower moving disc serves as a selector shutter, thus isolating the exposures due to a single revolution of the faster moving disc which operates at an angular speed thirty-two times as great as that of the slower. The slower moving disc is picked up by means of a suitable clutch mechanism which causes it to make exactly one revolution. The exposure scale obtained with this instrument consists of 23 steps having a maximum exposure time of 0.512 second and a minimum exposure time of .00025 second.

The United States Bureau of Standards has also constructed a sensitometer of the one-turn sector wheel type. This is a machine designed to work over a wide range of exposure times. In this instrument the sector wheel runs continuously at a predetermined speed calculated to give the desired exposure times, depending upon the sensitivity of the material being tested. The exposure intervals due to a single revolution of the wheel are automatically isolated by a selector shutter which is operated by means of a commutator attached to the shaft on which is mounted the exposure time modulating shutter.

Amateur Movie Making

(Continued from page 32)

manage without him by using a double, and making only long-shots, or such closer shots of him as only showed his back, or hands, or feet.

By this time, you will have your schedule broken down and tabulated something like this: Old Mill: 1-2-4-7-9-15-20-21-22-40.

John Smith: Costume No. 1. Fishing-rod, creel, hip-boots, pipe. Betty Jones: Costume No. 3. Bathing-suit, bag, vanity-case. Props: John's Packard, Betty's Ford, several live fish. Transportation: for John, Betty, Director, cameraman, Prop man, wardrobe mistress, assistants, etc. Camera equipment and props.

Ready to leave Director's home 9:00 A. M.

Betty's Home: 3-5-6-8-10-11. Betty Jones: Costume No. 1. Vanity case. Bathing suit in bag. Mr. Jones: Costume No. 1. Ready to work at 1:30 P. M. Butler. Ready to work at 1:30 P. M. Props: telephone, Betty's Ford, newspaper. Have lighting equipment ready at house. Transportation: none. Ready to work after lunch on completion of Mill sequence.

And so on until every scene, every player, prop and costume and every working moment is provided for. Only as this preparatory work is done completely and perfectly will you be able to produce your picture smoothly and efficiently, and free from unforeseen and troublesome delays. You may not be faced, as a studio is, with an overhead expense of thousands of dollars per day, but you want a good picture—and you can only get one when every detail is carefully planned before hand so that no one will be working under a strain, or subjected to needless irritation.

Arrived at this point, with your story ready, and your preparations complete, you are ready to start actual production. But that, as Kipling says, is another story.

◆

Tom Mix Rides Again

(Continued from page 13)

the opportunity of photographing nature's wonders which far surpass anything that can be created within the confines of a studio's walls. There is nothing quite so inspiring as to leave behind all the earmarks of civilization and plunge into the mountains where the solitude is broken only by the song of a bird or the cry of a wild animal. And that is what you get with Mix.

"I am pleased to be with him again, for I know what Mix wants, having worked with him for so long. Which brings up a point that I think should be stressed in picture production. I think that producers make a mistake when they change cinematographers so frequently in the making of a star's pictures. A cameraman after one or two pictures knows just what to do and what not to do to bring out the best in that star photographically. After he has acquired that knowledge, doesn't it seem foolish to put a strange man in his place?

"The same holds good in the case of cameraman and director. After one picture a cameraman learns just what the director wants. The director has discovered just what that cameraman can do for him in the way of assistance. Then the studios usually give the director a new cameraman who has no idea of what the director demands. It would seem to be more efficient to keep working combinations together."

Incidentally, Clark has probably photographed more western locations than any other cameraman in the profession, and he has an almost uncanny knowledge of locations. Show him a script calling for any particular type of location and Clark will tell you just where it can be found. He has made a study of locations throughout the west and has an unusual collection of location stills. Students of exterior photography would do well to watch for the first Mix picture and see how Clark combines scenic beauty with fast action.

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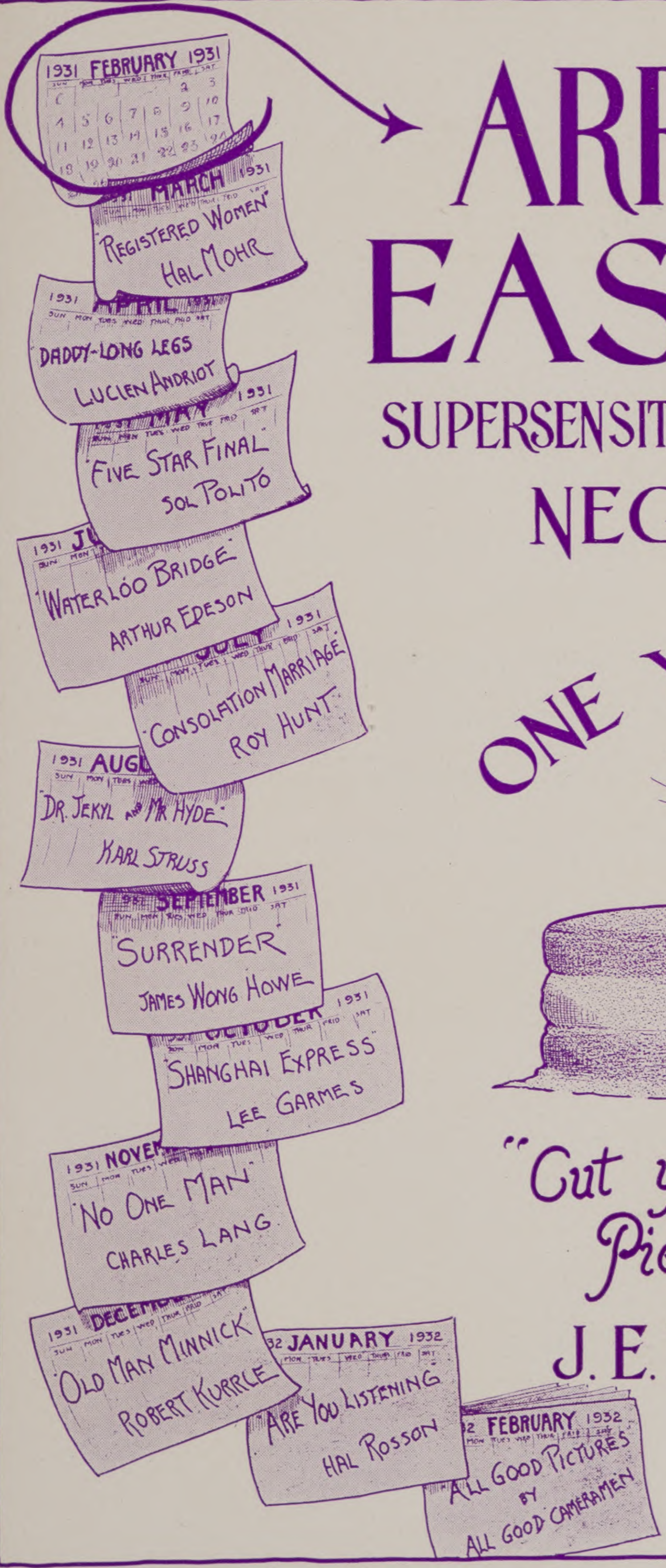
Sintzenich, Harold
Smith, Jack
Snyder, Edward J.
Stengler, Mack
Struss, Karl
Stull, Wm.
Stumar, Charles

Tappenbeck, Hatto
Tolhurst, Louis H.

Van Buren, Ned
Van Trees, James
Varges, Ariel

Wagner, Sidney C.
Walker, Joseph
Walker, Vernon L.
Warrenton, Gilbert
Wenstrom, Harold
Westerberg, Fred
Whitman, Phil H.
Wilky, L. Guy
Wrigley, Dewey
Wyckoff, Alvin

Zucker, Frank C.



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